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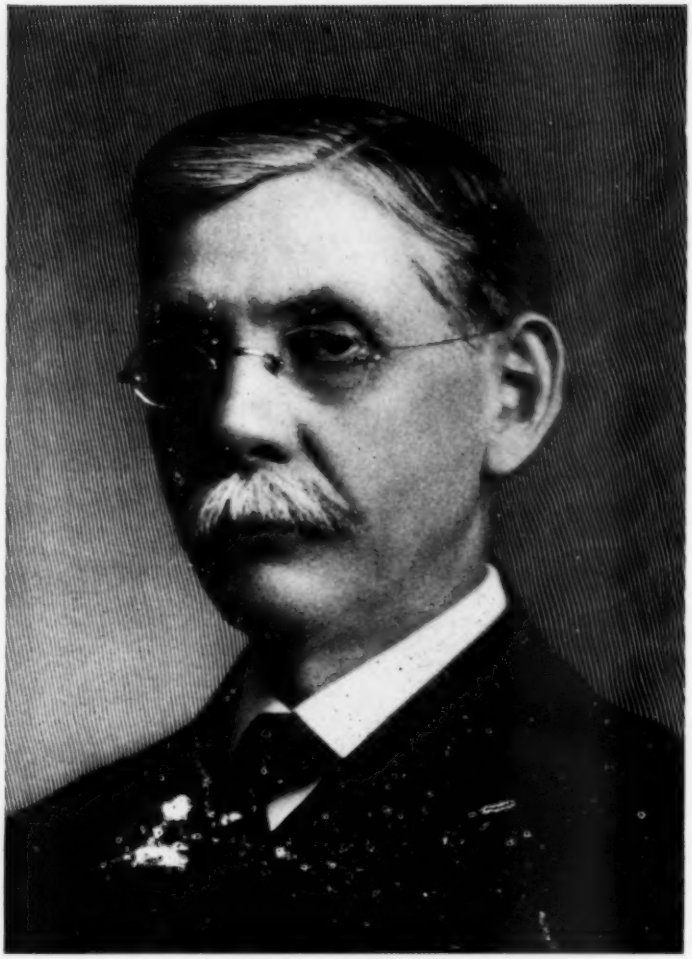

DR. VERANUS A. MOORE
President American Veterinary Medical Association

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OF THE

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The American Veterinary Medical Association is not responsible for views or statements published in the JOURNAL, outside of its own authorized actions.

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VOL. LIV., N. S., VOL. 7. NOVEMBER, 1918. NO. 2.

OUR NEW PRESIDENT.

Dr. Veranus A. Moore, President of the American Veterinary Medical Association, was born and raised in central New York. His father died when Dr. Moore was young, and he became the main support of the family. During his boyhood he met with an accident which crippled him for years, yet, in spite of adversities, and by his own efforts, he succeeded in obtaining an education under circumstances that would have disheartened many. After graduating from Cornell University in 1887, where he studied under Professor James Law, he entered the Bureau of Animal Industry under Dr. D. E. Salmon, and became Chief of the Division of Pathology and Bacteriology.

Dr. Moore's earlier work on hemorrhagic septicemia, tuberculosis, hog cholera, and other transmissible animal diseases is recorded in the publications of the Bureau, and proved him to be one of the foremost investigators of diseases of this class.

When the New York State Veterinary College, at Cornell University, was opened in 1896, Dr. Moore was called to be Professor of Comparative Pathology, Bacteriology and Meat Inspection. His successes as a research worker, teacher, and executive were such that, in 1908, he was appointed Dean and Director of the College.

Dr. Moore, while a fearless, independent, scientific worker, is, withal, an extremely modest man with broad human sympathies. No one has ever gone to him for help or cheer and has been disappointed. He is a leader in preventive medicine, a trained scholar and scientist, an inspiring teacher, and sympathetic friend and gentleman. The A. V. M. A. may well be proud of its new President. N. S. M.

ON GUARD.

General disorganization occasioned by war has always had its sequel in the spread of diseases of one kind or another, both in human and animal kind, and calls for greater vigilance in order to prevent the introduction, at this time, of the infection of the more rapidly spreading forms from the war-stricken countries of Europe, more particularly, of course, those affecting the domesticated animals with which we have to deal. All of us must still have the most vivid recollection of the widely devastating effects the last outbreak of foot-and-mouth disease produced in this country, and we should be on guard to meet any possible emergency that might arise as the result of disorganized conditions across the Atlantic. It has already been announced over the cables that an outbreak of foot-and-mouth disease has occurred in England, and our worthy Chief of the Bureau of Animal Industry, in order to forewarn, which is to forearm, has issued a statement, which may be found in another part of the Journal, advising close watch, on the part of everyone, against this dread malady. It is sincerely to be hoped that this country may be spared another invasion of this infection, but, owing to war conditions, and the absolute necessity for more or less intimate communication through the transportation of men and material, besides the reduction in the number of veterinary officers engaged in Bureau work, it is scarcely possible to maintain the rigid measures for protection which obtain during normal times. Consequently, it should behoove everyone—officials, practicing veterinarians, and stock owners—to be strictly on guard and report to the proper authorities any cases that might appear suspicious, so that the very first cases may be at once discovered and the spread of the disease prevented. This is most important, as it would be a calamity to this country if this disease should make its appearance under present conditions, and become permanently established here, as has been the case in many of the European coun-

tries. And while hoping for the best, let us do our best. Or, in other words, let us be strictly "on guard."

"I DONT KNOW."

Perhaps the most humiliating admission that a professional man thinks he can make, whether he may be trying to locate the seat of a lameness, or the exact nature of some contagious disease, with only an isolated case to go by, is, that he does not know. In fact, it takes a mighty "strong man" to make such an admission. And yet, in the long run, it pays to be honest in this respect, as there are but few reasonable clients who, if the admission is made in a tactful manner, would not respect the one making it much more than the man who happened to be in error after rendering a positive opinion, even though he, himself, knew full well that he was in doubt.

How often is it possible for the most serious results to follow the "positive," though mistaken, diagnosis in the case of a serious contagious disease. An error here may cause no end of trouble through the necessary sanitary precautions being neglected, with monetary loss to the owner, and loss of prestige to the professional man; and all through fear, or dislike, of having to make the admission, "I don't know." How much better to make the honest statement that the case had a suspicious resemblance to such and such a dangerous ailment, and, while a positive opinion was not at present possible, the case would be treated as a suspect, with all the necessary precautions taken, and further developments awaited. If it should turn out as suspected, the animal has been so placed that no harm can come from it; if, on the other hand, the suspicion should not be confirmed, neither can any harm result. How much more confidence must an owner place in the man with the straightforward, honest admission, but with the intelligent advice given, which may be the means of saving others of his animals, than in the one who has the impression that his reputation depends upon a hasty, or positive, opinion, whether right or wrong, and especially if untoward consequences should follow an erroneous diagnosis.

"Never be too quick in giving an opinion," was the advice given the writer, with others of his class, by one of the most noted of the older professors in one of the Scotch schools, and he has always found it valuable in after-life in his professional work.

We cannot but feel that many young practitioners, and per-

haps some of the older ones as well, may prejudice their prospects by entertaining the idea that they must be "know-alls," and that it is unmanly for them to admit they "don't know." Of course, the man of the "lightning diagnostician" type appears extremely smart, and may be lucky enough to make a favorable impression for a time, or until his "day of reckoning" comes, and he is found out. But the man who will more likely gain the esteem of his clients, and merit their confidence, is he who, in doubtful cases, has courage enough to admit his doubt, rather than try to impress his client with his remarkable superiority (?) as a diagnostician.

We are of the opinion that the practitioner, young or old, who would follow the advice of the old Scotch professor would, in the end, be more successful himself, and through his straightforwardness in expressing his opinion, be much more respected by the clientele on whom he is dependent for his living.

"MAKING BRICKS WITHOUT STRAW."

We are told that in ancient times Pharaoh commanded the taskmasters of the people to notify the latter that no more straw would be given them wherewith to make brick, but that they should go and gather it for themselves; and, at the same time, none of their work was to be diminished. Or, in other words, the time occupied in searching for straw was not to be reckoned as time off from their regular work of brick-making.

To make a good brick in those bygone days, straw was evidently a necessity; and it is also evident that the Egyptian potentate was determined, as a task or hardship, to place as much difficulty as possible in the way of his people making a first-class article of that particular variety of building material. In fact, the task he demanded was tantamount to an impossibility, or, to say the least, was the heighth of unreasonableness, and an extremely hard proposition to present to those people. And yet we believe the inference might possibly be made to apply to other lines of endeavor besides brick-making. In endeavoring to erect a "journalistic edifice" worthy our Association, in keeping with our ever-increasing membership, and commensurate to the advancement of the science and art of our profession, the "builder" must be adequately supplied with building material—he must have "bricks." And as our "structure" is composed of different sections, he requires different varieties of "bricks" in order to give the whole a "useful and attractive finish."

It should be remembered that the veterinary profession is composed of members engaged in different branches, and if we are to succeed in catering to each and all, we must look not only after the research worker, but we must also try to meet the wishes, and needs, of the everyday practitioner, who, while he may be interested in the more scientific branches, so to speak, is more vitally so, in recorded cases similar to those he is meeting with, day after day, in his own practice; and if the "builder" is short in any one material in the erection of his "monthly edifice" it is that in which the practitioner is more particularly interested, viz., clinical and case reports. And yet it is the practitioner, himself, who has to be depended upon to supply the "bricks" to interest his fellow practitioner and help him along in his daily routine of work. Wont our friends in practice—and we may extend the invitation to workers in all of the departments—supply more material to help make the Journal of more general interest? We, unfortunately, like the Egyptian slaves of old, cannot "make bricks without straw."

PLEASE NOTE CAREFULLY.

Annual dues from members of the A. V. M. A. should go to the Secretary in Chicago, while subscriptions to The Journal from non-members should come to the Editor at Baton Rouge, La.—Ed.

Dr. C. L. Holt has been transferred from the work of tick eradication, Washington, D. C., to such work in Baton Rouge, La.

Dr. J. B. Reidy, Inspector in Charge of tick eradication, Houston, Texas, just returned from Ithaca, N. Y., where he has been spending a few weeks' vacation with his home folks.

Drs. E. B. Haskins and Elmer Lash, traveling inspectors in tick eradication, Jackson, Miss., have successfully passed examinations for commissions in the Veterinary Medical Corps and are now ready to be called into the service.

Dr. Frank J. Friel, formerly of Frackville, Pa., has become associated with the Lederle Antitoxin Laboratories.

SWINE PRACTICE.*

C. COURTNEY MCLEAN, Meadville, Pa.

Swine—undoubtedly the most naturally intelligent and the cleverest of any of our domestic animals, the animal that can only be fooled once, and the animal that can find its way home even when removed as young as four weeks—are still the most abused and neglected of any of the members of the animal kingdom. They have been abused since the beginning of Biblical history; only too frequently kept in an abominable environment; ordinarily fed the refuse from every source, even being asked to subsist on the undigested waste in the feces of cattle, the vilest of decomposing slaughter offal, or garbage that no other living creature would even look at or taste; yet its wonderful digestive system and rugged constitution permits it to transform any of these forms of diet into healthy, nourishing food.

It is this wonderful ability to convert waste into gold, as well as the smallest share of the granary contents, by the quickest route to the meat barrel, combined with their great prolificacy, being capable of a 2,000% annual increase when the sows are bred semi-annually, and the fact that pigs are usually ready for market at six months of age weighing from 200 to 250 pounds, that caused our food administrator, Mr. Herbert C. Hoover, to instigate a nation-wide campaign last year for a greater swine production. As a result of this campaign many patriotic cities repealed ordinances which forbade the raising of pigs within their respective limits, thereby enabling many of their citizens to raise their own pork. The most marked increase in the pork production, however, has been due to the efforts of the farmer, which is shown by the fact that on January 1, 1918, there were approximately 71,374,000 hogs on the farms in this country, in contrast to 67,453,000 on January 1, 1917, or an increase of 3,921,000 in one year. This year the food administration has asked for an increase of 15% in the hog production over last year. While I have no more recent figures than April 1, 1918, when it was estimated that there had been an increase of 9½% over the number of hogs in this country at the same time last year, I feel safe in saying that this desired increase will not only be met, but

* Presented at Section on General Practice, A. V. M. A., Philadelphia, 1918.

even surpassed, and that the statement recently made in London by our food administrator to the effect that the immense extra stores of meat needed to feed the United States and the Allies would be forthcoming through our pork-producing channels will become an assured fact.

According to the general laws of economics, an increase in production of anything usually causes a decrease in its valuation, but, due to the present price of feed, labor, etc., such has not been the case with the hog. On the contrary, a very marked increase in their valuation has been the rule, until, at the present time, the price of hogs on our live stock markets is the highest it has been since the Civil War, making the valuation of the hogs in this country today about $1,500,000,000.

With such a vast number of hogs in this country and such an enormous amount of capital invested in them, may I point out to you as veterinarians the responsibility which rests upon your shoulders and mine in protecting this great industry? Not only in protecting it from the various epizootic diseases, as hog cholera, tuberculosis, necrobacillosis, etc., in the control of which we as a profession have made such marked progress within the past few years, but in that broader field known as general practice.

Prior to this past year, possibly because of the previous low valuation of the hog, along with a lack of knowledge and technique on our part as a result of the most of our veterinary schools not having the proper facilities to give a complete and thorough course in general hog practice (and perhaps it may also be due to an indisposition on the part of some of us), I feel that this field has been somewhat neglected by our profession. The result of this seeming neglect on our part has been that the field of hog medication has been left largely to either the owner himself or some kind and willing neighbor endowed with a vast turpentine knowledge of medication.

With the present high price of pork, which no doubt will remain for some time, and the increasing tendency toward pure-bred stock, it should be profitable for the American farmer to employ skilled service for the care and treatment of his porcine possessions, and he should look to our profession for this service. We at the same time should be in a position to give this service, not only as an aid to the swine industry,but,if I might suggest, as a means of recouping some of the loss we have suffered from mechanical devices. Therefore, I thought that it might be of interest and value to some of you if I should relate briefly some

of the things that I have found of value to me in general swine practice.

Hog House.—Size, location, construction; light, ventilation; warmth, bedding.

Yard.—Size, fence, pasture; water, wallow; trees, shade.

Boar.—Care, handling, exercise; feed, condition, skin, oiling; breeding, age.

Sows.—Feed, care, gentle handling, "Queen of the Farm;" breeding age; weaning pigs.

Farrowing.—Isolated place; farrowing rail; bedding; presence or absolute letting alone; feeding; aid in dystokia, pituitrin, forceps; Cæsarian section.

Pigs.—Bedding, feeding; fed in place that sow cannot get at; simple castration, cryptorchid, hernia; separating sows.

Medication.—Lice, mange, skin troubles; diarrhœa, constipation, worms; hypodermic medication; garbage poisoning.

Time is insufficient to deal with this subject as I think it should be dealt with, but I hope from what I have been able to offer on this subject that all of you may gain some benefit and be of more assistance to the American pig in its campaign to help our soldiers and the Allies to whip the German human hog.

AVIAN TUBERCULOSIS IN SWINE.*

By L. ENOS DAY, V. S.,
In Charge Branch Pathological Laboratory, B. A. I.,
Chicago, Illinois.

The question of tuberculosis has been studied by investigators for a great many years, and is without doubt one of the oldest diseases of which we have any history, ranking in seniority perhaps with leprosy and syphilis. In more recent years I believe this disease has attracted more attention and interest than any other disease.

Since the discovery of the causative agent of the disease, extensive research work has been done with reference to the virulence, morphology and cultural characteristics of the organism, with valuable results. This work has shown conclusively that there are at least three, and possibly four, distinct types of organisms which can be distinguished and designated according to type. The type that I wish to deal with in this brief report is the Avian type. This type has been considered by workers to be

* Presented at Section General Practice, A. V. M. A., Philadelphia, 1918.

closely confined to fowls, and probably saprophitic in nature in other soil. This view seemed to be quite universal until 1909. During this year, Mohler and Washburn[1] successfully infected swine and other mammals experimentally. At this time they also pointed out the danger of allowing swine to devour carcasses or parts of carcasses of fowls affected with tuberculosis. In 1915, M. Christiansen[2] reported several observations of Avian tuberculosis in swine, which were received at the Berlin municipal abattoir. A few years previous to Christiansen's report, Avian tuberculosis in swine had been reported on several occasions by European writers.[3]

For the past eight years the writer's attention has been called by veterinary inspectors working on the killing floors of various packing establishments at Chicago, Illinois, to certain lesions resembling tuberculosis, in the skin and body lymph nodes of swine. In some instances, acid-fast organisms were readily demonstrated, while in others it was difficult to demonstrate such organisms. At first the organisms were thought to be tubercle bacilli of the bovine type, but owing to the length of the organisms some doubt was entertained.

In March, 1912, some body lymph nodes were received from the Inspector in Charge at Cudahy, Wisconsin. The lesions appeared tuberculous. On microscopic examination, no tubercle bacilli were demonstrated. Some of the material was sown on glycerin agar agar, to which 5% of sterile ox gall had been added. In the course of eight or ten days, a slight growth was appearing. and in two weeks it was quite heavy and showed the characteristic wrinkling of cultures of tubercle bacilli. Microscopic examination showed it to be a pure culture of acid-fast bacilli slightly longer than the bovine type. Both guinea pigs and rabbits and two hogs were injected subcutaneously from this culture. The rabbits and guinea pigs were sacrificed two months after inoculation, with negative results. The hogs died of cholera soon after inoculation. Subsequently, a young puppy and a kitten were inoculated subcutaneously; also a sheep and another pig were inoculated intravenously with the same culture, all with negative results, with the exception of a small abscess at the point of injection in the puppy and kitten. These abscesses subsided after two or three weeks.

Since the organisms grew so readily on the culture medium above referred to, and none of the experimental animals showed lesions of tuberculosis on postmortem, although they were allowed

to live for two months or more after inoculation before they were sacrificed for examination, I felt quite sure that I was not dealing with tubercle bacilli of the bovine type. It has long been recognized that the bacilli of the Avian type, in comparison with those of the bovine type, are distinguished by their low virulence to guinea pigs, and their peculiar moist fatty as well as rapid growth on solid as well as in liquid media. However, owing to the pressure of other duties, the experiments rested at this point for a time.

In May, 1914, specimens of skin and body lymph nodes from a hog of medium size were received from one of the Chicago packing establishments. Many long, beaded acid-fast bacilli were found in smears prepared from the lymph nodes of the animal. Portions of the lymph nodes were ground fine in normal salt solution and injected both subcutaneously and into the skin on the back of a hog about four months old. On September 5, 1914, this animal was slaughtered. For the first two months after inoculation the animal grew rapidly. After that it did not grow so well, and at the time of slaughter it was not in a good growing condition, having lost some in weight. On postmortem, at the point where the injection was made into the skin, the skin over an area of one and one-half inches long and one inch wide was thickened to about one-half inch, and showed many small necrotic foci. Many small necrotic foci were also found in the mesenteric lymph nodes and in the lungs. The largest foci in the lungs were 6 mm. in diameter. Slides prepared from these foci contained a large number of long, beaded acid-fast bacilli.

Two young roosters were inoculated from the lesion in the skin and lungs of the hog in the following manner: Several necrotic areas of the skin and lungs were carefully removed and ground fine in sterile normal salt solution. One-half cubic centimeter of the suspension was injected intraperitoneally into one of the roosters; the other received one-half cubic centimeter into the wing vein. The chickens grew well and were sacrificed five months afterwards. On postmortem several nodules were found which ranged in size from 1 to 3 mm. in each of the livers. The lungs and other organs appeared normal. Slides prepared from the nodules in the liver contained a large number of beaded acid-fast bacilli. But again, owing to other duties which called me away from the laboratory for an indefinite period, further cultures and inoculations could not be made; and the experiment was abandoned at this time.

In the cases that I have observed in swine, the lesions are usually confined to the skin and body lymph nodes. The skin extending over the back and sides is the location usually involved. The most common lymph nodes involved are the superficial inguinal, and the prescapular comes next in order. I have seen only one case of natural infection in which the mesenteric lymph nodes were involved, and one case in which the lesions had extended to the lungs. I have not observed lesions in the liver.

According to Christiansen's report, the lesions mentioned by him in the nine cases which he studied were distributed as follows: In six cases lesions were found in the lungs, liver and mesenteric lymph nodes. In one of these cases the spleen was also involved. In three cases the liver alone was mentioned; one of these showed spleen involvement. He does not mention any case in which the skin or body lymph nodes were involved.

The extent of the lesions in the skin depend largely upon the length of the time during which the animal has been injected. In some cases which I have examined, entire back and upper part of the side was affected, while in other cases of more recent duration, the lesions were not so extensive, affecting only a portion of the back, shoulder or side. Such localized areas are only a few centimeters in diameter. The body lymph nodes contiguous to the skin lesions are always more or less changed.

The affected skin is thickened and quite firm and dirty or brownish-yellow in color, without an appreciable loss of hair. Upon incision, the skin will be found to be from two to four or five centimeters in thickness, with a slight increase of fibrous tissue which contains a large number of disseminated homogeneous, soft, fatty, white to yellowish-white tubercles, ranging in size from one millimeter to a centimeter or more in diameter. The tubercles are very oily and when incised leave a layer of grease on the knife. In some instances the tubercles are encapsulated, giving it the appearance of a cyst with a fatty content. Caseation and calcification does not take place readily, and is seen only in cases of long standing. Junach[4] claims that caseation in Avian tuberculosis in swine does not occur.

The lesions in the lymph nodes are very much the same as those of the skin. The histological structure of the tuberculous process is much the same as that of bovine or human type, with the exception of the large amount of fat present. Giant cells are present, but not so frequently.

I have experienced no great difficulty in getting the bacilli to grow on ordinary plain agar agar or in nutrient beef broth. However, they grow better on glycerin agar agar with 5% of beef gall added.

Christiansen reports that out of fifty cases of local infection of the mesentery gland he found that thirty-five were affected with the fowl type. I have no data showing the exact per cent of this type of tuberculosis in swine in this country. While I do not believe it nearly so prevalent in this country as has been reported abroad, yet I believe it is more frequent than we suspect. Whether it appears as an epidemic in swine on farms where it is epidemic in fowls, I am unable to state. However, I believe that this point is worthy of consideration.

REFERENCES.

[1] The Transmission of Avian Tuberculosis to Mammals. John R. Mohler and Henry J. Washburn, Ninth International Veterinary Congress at The Hague, September, 1909.

[2] M. Christiansen, "Zeitschrift für Infectionskrankheiten," Vol. XVI, Part 4, Berlin, 1915.

[3] "Zeitschrift für Infectionskrankheiten der Haustiere," Vol. XIV, page 323.

[4] Junach, Zeitschrift für Fleisch und Milchygine," March 3, 1914.

THE BUREAU OF ANIMAL INDUSTRY AS A WAR AUXILIARY.*

JNO. R. MOHLER, Chief of the Bureau.

The natural tendency in time of war is to concentrate on military achievements. We have reason to be proud of our great resources, of our ability to supply food and other munitions of war to our allies, of the unprecedented record our country has made during the past fifteen months, of our army of over a million sturdy, well-equipped men now battling in France, of the valorous deeds of our soldiers and sailors; but when we divert our attention from the front it is realized that all of these splendid achievements were made possible only through the efforts of the civilian population behind the battle lines. The man who is producing grain, meats, wool, guns, shells, ships, or the man who is earnestly engaged in conserving live stock through the preven-

* Presented at 55th Annual Meeting, A. V. M. A., Philadelphia, 1918.

tion or cure of animal diseases, is probably contributing equally as valuable services to his country at this time as the soldier in the trenches. Strong as the temptation may be to wear the khaki, many of us must remain at home to produce and conserve the essential supplies of warfare, and it gives me much pleasure to refer to the patriotic, successful manner in which the civil as well as the military members of our profession are performing their duty.

The Bureau of Animal Industry endeavors to foster and improve the live stock industry and also to aid the consumer in procuring a wholesome supply of meat and dairy products. This work includes animal husbandry, dairying, meat inspection, and the study, prevention, and eradication of animal diseases.

The Bureau realizes fully the great necessity during the present national crisis of increasing live stock production not only for the purpose of obtaining more beef, more mutton, more pork, and more poultry, but also for the purpose of getting more butter, milk, cheese, eggs, hides, wool, and fats.

We are endeavoring in every way possible to conduct an educational propaganda to stimulate this increased production, and have systematized our various propaganda along two main lines. The first is through meetings, news articles, pamphlets, bulletins, etc., to encourage the live stock raiser to increase his herds and flocks, and the second is to assist the live stock raiser in conserving his live stock so far as possible after it has been produced, by aiding him in every way possible to keep his herds and flocks from becoming decimated by disease.

Therefore, the efforts that are being made to induce increased production of live stock are closely related to the control of animal diseases. It is estimated that the annual loss in the United States from such diseases amounts to the enormous sum of two hundred million dollars, or more, and it is believed that three-fourths of these losses are preventable. In the past our farmers have suffered, with equanimity, losses that from a national viewpoint are now more serious than ever before, and the Bureau is taking more energetic efforts than ever before to reduce the losses from these diseases.

The steady decrease in live stock production and the persistent increase in the cost of meats and other animal products for a number of years before the war were matters of universal concern, and various projects were pursued by the Bureau in cooperation with the states, looking to the stimulation of live stock

production and the prevention of losses from destructive disease. Much was accomplished by the methods employed and when the war storm broke upon us it was found that the established lines of work were suited to the needs as far as they went, but in order that a more vigorous and widely extended attack might be made on animal diseases and new projects undertaken to stimulate animal production and conservation, the Congress included in the Food Production Bill last August a sum to be used for such purposes in addition to the regular appropriation. The activities of the Bureau at this time are extensive and varied, but the following projects are especially important as war measures.

Meat Inspection.

The importance of meat inspection as a public health measure, especially during war times, is too well established to require argument and explanation. Therefore, this discussion of the subject need not consist of more than a brief statement to show the scope and volume of the work done by the Bureau in its conduct of the Federal meat inspection service. The chief purpose of this service is to eliminate diseased or otherwise bad meats from the general food supply, to see that the preparation of meats and products passed for human consumption is cleanly and conducted under good, sanitary conditions, and to enforce the requirements as to honest labeling.

Under the authority conferred upon the Department by the Meat Inspection Act of June 30, 1906, the Bureau enforces a rigid supervision and inspection at the slaughtering and meat preparing plants which are engaged in interstate and foreign commerce. This inspection provides for not only an examination of the animal immediately before and directly after slaughter, but also for the supervision and inspection of all meats and products in the establishment through the several stages of preparation and processing. In this connection it should be explained that the Federal Meat Inspection Act does not confer jurisdiction over establishments the meats and products of which are shipped or handled wholly within the borders of a State. Such meats and products lie wholly within the jurisdiction of the local authorities. However, in those establishments at which Federal inspection is maintained all the animals slaughtered and all the meats and products handled there are inspected. In this way a very considerable proportion of the meats and products not shipped in interstate or foreign commerce is, nevertheless, Federally inspected.

The amount of meats and products condemned for disease or unsound condition has been large in the aggregate, but no larger than the protection of the public health requires. The Bureau constantly keeps in view its double duty of protecting the health and rights of the consumers of meats and at the same time to see that the greatest possible measure of conservation of meats and products consistent with such protection is accomplished. The probabilities are that if there were no Federal inspection a large proportion of the meat so condemned would have been marketed for human consumption, which is indicative of the direct relationship of the meat inspection service to the public health.

The standards of inspection are based on the best scientific knowledge of the present day and are sustained by the unanimous views of all the great scientists of the world who are experts on the subjects involved. Our regulations and practices are fully as stringent as those of any other nation and in some cases they are even more stringent.

After the close of the Spanish-American War, during which many lives were lost by disease, much adverse comment was heard with regard to the so-called "embalmed" meat furnished to our troops. Many statements appeared in the newspapers on this subject and it was a common topic of public discussion throughout the United States.

Under the present law there is sufficient authority furnished to prevent any recurrence of this character and it has been the persistent demand of the Government that the military and naval forces must be supplied, not only with a sufficient quantity of food, but with food which is nutritious, sound, healthful, and wholesome. Every effort is being put forth to supply this kind of product.

When the present war began the Secretary of War and the Secretary of the Navy requested the Secretary of Agriculture to assign meat inspectors to the various cantonments, training camps, forts, posts, and other places where large numbers of our boys were in training. This followed similar service by Bureau inspectors when American troops were mobilized on the Mexican border in 1916. Sixty-nine inspectors of the Bureau of Animal Industry are now with the army and thirty are with the navy. Thus the Federal inspection service which has protected the civil population of the United States from bad meat in interstate commerce has been extended to cover completely the meat and meat products supplied for the American army and navy.

The Bureau men are inspecting, selecting, and handling meats and fats for military consumption, and the operations are under supervision from the time the live animals are driven into the slaughtering shambles until the finished product is delivered in good condition to the mess cooks.

The army gets its meat from two sources—from the Quartermaster Corps and from private concerns. All meats supplied by the Quartermaster Corps are prepared in establishments operated under Federal inspection, and the majority of these products are further inspected in these plants by army meat inspectors assigned there for the purpose. Examinations made by inspectors at points of consumption are to detect unsoundness which may have developed after the products left the packing house and to determine whether they comply with specifications and contracts.

Inspectors also advise quartermasters with regard to proper storage and handling of meats, keep these officers informed of the supply on hand, make sure that the oldest packs are issued first, and assist in other ways to prevent loss from deterioration.

Troops must purchase in the open market fresh meat and meat products, other than fresh and frozen beef and mutton, because the Quartermaster Corps does not carry them. Thorough and efficient inspection of these products purchased locally for food in the kitchens is of more importance than the inspection of the meats furnished by the Quartermaster Corps. The former have not been inspected for specifications prior to their preparation for troops because the army does not require that such inspection of this class of meats be made.

All meat products must be handled in a sanitary manner. Wagons or trucks used to transport meats from points of issue to kitchens must be clean and equipped with tight-fitting tops, and persons who handle meat must wear garments that may be easily made clean again.

For the past ten or twelve years the Bureau of Animal Industry has coöperated with the Navy Department in the reinspection of meat and meat food products. The organization of the navy is different from that of the army. Not as many men have to be supplied and the manner of feeding them is not the same. The navy provides large mess halls and, unlike the army, does not have numerous small mess halls. The organization of the navy does not make local purchases because the supply division of the Navy Department furnishes all goods. Only "United States Inspected and Passed" meat and meat food products are pur-

chased, and these must be inspected for specifications in the packing plants by inspectors of the Bureau of Animal Industry, except at the Chicago plants, where the navy has its own inspectors.

The Navy Department desires the Bureau's inspectors to conduct all reinspections at receiving points. Inspection for the navy is not confined to meat and meat products, but includes other provisions, such as poultry, fish, oysters, clams, butter, eggs, cheese, fresh fruits, and fresh vegetables.

Because of the possible addition of harmful substances to meat products prepared for military use, inspectors stationed at official establishments are required to collect and forward to the meat inspection laboratories for chemical examination representative samples from every batch of food products prepared for the army or navy.

The analyses of these samples are given precedence over all other work, and include an examination for adulterants and chemicals, especially poisons.

The Bureau has completed its investigation of the statement made and widely published some weeks ago that meats and poultry unfit for food had been sold or offered for sale for army consumption at Camp Travis, Texas, and finds that the Federal meat inspection was not involved. This announcement is made because inquiries received indicate an impression that the reports reflected on its meat inspection service.

The published statements were based partly on information given out by the Federal Trade Commission, but a letter from Commissioner Victor Murdock to the Chief of the Bureau makes it clear that no blame attached to the meat inspection. Mr. Murdock says: "The question of meat contracted for by the army and examined by your inspector at San Antonio is not at issue. No complaint was heard of the meats issued by the camp quartermaster at Camp Travis. * * * The meats referred to in the complaints * * * were offered to the camp through channels which do not have the benefit of Federal inspection."

The public may rest assured that the Secretary of Agriculture and other officers of the Government are doing everything in their power to maintain the meat inspection service at a high standard and to improve its efficiency whenever and wherever it is possible. The chief object always held in view is the protection of the consumer against unsound and unwholesome products.

Influenza or Shipping Fever of Horses.

The losses resulting from influenza or shipping fever of horses have been enormous, especially among animals shipped for war purposes. Since war was declared the Bureau extended its cooperation, as a war measure, to the officials of the War Department and State and local authorities at assembling and shipping points, with the view of minimizing the losses following exposure to this disease. Recently twenty-seven additional employees were detailed to this work, making in all seventy Bureau employees working in coöperation with the other interested officials to suppress the disease. These men are working practically in every State in the Union. Their work consists in inspecting horses for influenza, securing the segregation of animals found affected and the supervision of the cleaning and disinfection of barns, stables, corrals, cars, etc., used in connection with the handling of these horses. Though this work is yet in its infancy, sufficient progress has been made to show that the losses resulting from this disease can be greatly reduced.

Tick Eradication.

On July 1, 1906, 728,565 square miles of territory, involving fifteen states, were quarantined for Texas fever. It is estimated that the annual losses from this disease amounted to at least $40,000,000. The movement of cattle from the quarantined territory for slaughter and other purposes was restricted by regulation, the animal population was of very inferior quality, good breeding stock could not be safely imported to improve the breeds, the dairy industry was insignificant, general agriculture was retarded through the presence of the tick, and the belief generally prevailed throughout the South that the ticks could not be exterminated. However, the work of extermination was taken up in a small way in 1906. It progressed very slowly for several years owing to the limited funds and opposition to the movement. After it was proved that extermination of the tick was possible and the benefits became obvious, the work progressed rapidly, and up to the present time 52 per cent of the original 728,565 square miles of territory have been released from quarantine. In other words, through systematic efforts of the Bureau in cooperation with the State authorities and live stock owners, the cattle tick has been exterminated in an area equal to the combined areas of the New England States, the Middle States, Virginia, West Virginia, Kentucky, Ohio, Indiana, and a third of Michigan.

As soon as the emergency appropriation became available after the declaration of war, additional veterinary inspectors were assigned to duty in the tick-infested territory and the work of eradication was pushed as a war measure. There were 286 Bureau inspectors, 284 State inspectors, and 1,202 county inspectors in the field during the latter months of 1917, and 21,247 dipping vats were in operation. The method of eradication consists in a systematic dipping in a standardized arsenical solution of all cattle in a community at regular intervals throughout the season. The cost of eradication has been found to be from 18 to 50 cents per head of cattle, while the increased value of each animal is greatly in excess of this, one canvass having resulted in an estimated average increase of $9.76 per head.

With the release of the entire State of Mississippi from quarantine, in December last, a wedge has been forced through to the Gulf of Mexico and during the coming season the forces of inspectors will be increased as much as possible under existing conditions, and it may be safely predicted that the cattle tick will be completely exterminated in the South within the next five years.

Hog Cholera.

Hog cholera undoubtedly is the greatest impediment to increasing our hog production. In 1913, the Bureau instituted experiments in three counties located in different states to demonstrate the possibility of reducing losses from that disease through farm sanitation, quarantine, and the application of anti-hog cholera serum, properly administered by veterinarians. From these experimental efforts were developed the present control methods which are meeting with marked success. The emergency appropriation has enabled the Bureau to extend its coöperation to 33 states and we now have a force of 170 trained veterinarians in the field working in coöperation with agricultural colleges, state regulatory authorities, and local veterinarians to further reduce the losses from hog cholera.

Data compiled by the Department of Agriculture show losses of $75,000,000 in 1914 from hog cholera and about $32,000,000 for the year ending March 31, 1918. These figures show a reduction of over fifty per cent in the losses in less than five years, and judging from the field reports of Bureau inspectors, there has been a further reduction in the losses since the last estimate. Stated in another way, the country-wide death rate from hog cholera last year was 42 per 1,000, the lowest in 35 years, and a

wonderful contrast to the 144 per 1,000 in 1897 and 118 per 1,000 in 1914.

The extension of hog cholera work as a war measure, together with the increased activities of the Dairy Division and the Animal Husbandry Division, and the rigid enforcement of the regulations promulgated under the Serum-Virus Act of 1913, are bringing results that no doubt will reflect favorably in producing the required fifteen per cent increase in hog production in 1918.

Sheep and Cattle Scabies.

Sheep and cattle scabies became so generally prevalent and destructive a few years ago that the Bureau was called upon for assistance. Continued progress has been made since the inception of the work of eradication, and at the present time only eleven counties in the State of Texas, ten counties in California, and three parishes in Louisiana remain in quarantine for sheep scabies, while there is now no territory under quarantine for cattle scabies. This does not mean that cattle scabies has been entirely eradicated from every ranch in the United States, but it does mean that the infection has been reduced to such an extent that it can be handled effectively by the coöperation of Federal, State, and local officials.

In 1905, when the Federal fight against cattle scabies was begun, 1,285,000 square miles in Colorado, Kansas, New Mexico, Nebraska, North Dakota, Montana, Oklahoma, South Dakota, Texas, and Wyoming were under quarantine. The disease weakens cattle and reduces their flesh and causes some of them to die.

On April 15, last, Federal quarantines against sheep scabies were removed from 136 counties in Texas, with an area of 118,033 square miles. The area remaining under quarantine for this disease includes 56,769 square miles in California, Louisiana, and Texas. Since the war was declared, the field work in scabies eradication has been prosecuted with more vigor and general cooperation than ever before, and it is believed that by 1920 there will be no territory under quarantine for scabies.

Tuberculosis.

Tuberculosis is the most widely distributed destructive disease that now menaces the live stock industry. It is estimated that the annual losses from animal tuberculosis amount to at least $25,000,000. Its eradication is especially important, as it not only diminishes the national wealth by $25,000,000 annually, but

it also affects human health to a degree that cannot be measured in terms of money.

Spasmodic efforts have been made in some sections of the country to eliminate this plague, but these efforts usually have been thwarted through obstructive opposition. Much educational work has been done to prepare the way for eradication. The literature on the subject abounds in convincing statistics, condemnatory of the general apathy manifested throughout the States in regard to the existence and continued spread of this disease.

The additional funds provided by the War Emergency Appropriation enables the Bureau to give more attention than ever before to the control of animal tuberculosis. The control measures will be applied in coöperation with State authorities and live stock owners along three lines: the eradication of tuberculosis from pure-bred herds, the eradication of tuberculosis from circumscribed areas, and the eradication of tuberculosis from swine. In the beginning, our efforts are being concentrated on the eradication of the disease from pure-bred herds. A conservative estimate of the prevalence of the disease in these herds places it at fifteen per cent, and as they are the foundation of our breeding stock, an important step in eradication would be accomplished if they were freed of the disease. A plan has been put into operation for the testing of pure-bred cattle with the view of eliminating the diseased animals from the herd, and it is believed that with proper coöperation in carrying it into effect, in connection with the judicious application of some restrictive measures, it will have a perceptible effect in diminishing losses from this disease. It is not a measure that is being forced upon the live stock industry, as the test will be administered only at the request of the live stock owners when they agree to place their herds under the supervision of the Bureau and are willing to carry out instructions in regard to the disposition of reactors and the cleaning and disinfection of their premises. The object of this undertaking is to create a list of pure-bred herds from which persons may buy breeding stock with reasonable assurance that they are purchasing animals for breeding purposes that are free from tuberculosis. Judging from the interest that is manifested in the project, and from the numerous applications for the test that are being received, there appears to be no doubt that in time there will be a sufficient number of herds placed in the accredited list to supply the demands for breeding stock.

The report covering the coöperative tuberculosis eradication work in the various States during the month of June shows that the operations have been extended to 32 States. Headquarters have been established in 17 important centers, from which the work is supervised and directed. During the month of June, 74 Federal employees and 58 State employees were engaged in the field work. There were over 16,000 cattle tested, which was an increase of 700 over the number tested during the previous month.

Time will not permit my entering into a discussion of our increased work to control blackleg, anthrax, hemorrhagic septicemia, contagious abortion, plant poisonings, and other diseases which serve to reduce our live stock production. Nor can I more than mention our monthly production of 300,000 to 400,000 doses of mallein for the use of the army; the question of salvage of sugar, saltpeter, and salt used in the curing of meats; the procurement of a substitute for edible lard oil to be used in the industries; the analysis of various articles found in stock yards and other places to determine whether they are infectious or carry poisonous substances; the use of casein of milk in the production of a waterproof glue in aeroplane manufacture; the coöperation with the War Department in producing horses for the army sired by Bureau stallions; the campaign to increase the leather supply by urging greater care in the skinning and curing of hides; the cottage cheese campaign to increase the consumption of this wholesome meat substitute; the stimulation of pork production, poultry production, egg conservation, beef production, sheep and wool production; the supervision of moving cattle from drought-stricken sections to points where grazing land and feed are plentiful; the supervision of importing cattle from Central America, Mexico, and adjacent islands; the substitution of feed in cattle feeding that cannot be used for human food; the establishment of another branch pathological laboratory at Denver to facilitate the prompt diagnosis of infectious diseases in the Rocky Mountain districts in order to control speedily any serious losses to the live stock industry in that section; the coöperation with the Public Health Service in the extra-cantonment zones for the purpose of insuring safe and sanitary dairy products for army cantonments and naval stations, etc. In addition, it should be recorded that the Bureau as a war auxiliary has furloughed to the War Department 355 from among its most aggressive and best equipped employees for military duty, not only in the Veterinary

and Sanitary Corps, but as artillery, cavalry, and infantry officers as well. If need be, we can duplicate, quadruplicate, or multiply this number to an even greater extent and my earnest prayer is that all of these men may return safely and speedily as conquering heroes. This loss of men has handicapped the Bureau considerably, but not nearly so much as the loss of almost 1,200 additional employees through resignation since war was declared to accept more lucrative employment in the industrial world. Notwithstanding these losses, the Bureau has been able to maintain a high standard of efficiency as a result of the faithful and patriotic services of the present personnel, as is shown by the activities and accomplishments of the current year.

In conclusion, it should be emphasized that at this time the conservation of health, both animal and human, is not only an economic necessity, but a patriotic duty as well, and each of us can do his share, especially by helping to eliminate the tremendous wastage due to the diseases above mentioned. Our war waged in the cause of humanity calls for the rapid development of our resources, conservation of our supplies, invincible determination and endurance, and liberal contributions of our means, our strength, and our ability in order to achieve victory and permanent peace. Therefore, let us reconsecrate ourselves to this great, fair land of ours and determine to stand together until "Old Glory" shall wave in triumph over the smoke-covered battlefields of France, and human liberty and justice shall be secure throughout the world.

TUBERCULOSIS AND OUR LIVE STOCK INDUSTRY.*

JOHN A. KIERNAN, Washington, D. C.

"Any efforts to reduce or control tuberculosis of live stock, in order to be of lasting value, must have eradication in view as the final object. We should not temporize with such an insidious malady, but we should adopt aggressive measures that will insure success within a reasonable time."

Words taken from the address delivered before Section VII, Sixth International Congress on Tuberculosis, in the City of Washington, September 29, 1908, by the beloved Melvin.

A more noble ambition could scarcely be conceived in the mind of man. In approaching the subject of tuberculosis erad-

* Presented at 55th Annual Meeting, A. V. M. A., Philadelphia, 1918.

ication we are forced to consider it from a national point of view. The live stock industry of each state is but a part of the agricultural resources of the nation. The greater the productivity of the cattle industry of one commonwealth, the larger will be the resources of the Union. The deeper disease preys upon our cattle, be it in the North, South, East, or West, the lower sinks our resources. The live stock belongs to the individual, and our political system encourages the development of enterprise among its citizens. The law does not limit us to the ownership of ten or ten thousand cattle. We may sell them, kill them, give them away, traffic and barter with them in any way we choose, just as long as they are sound in health, but should they at any time become diseased and be a source of danger to the stock of our neighbor, the law, which is made for all the people, restrains us, under the police authority of the State or Federal governments, from jeopardizing the health of other animals. A man's goods are his own as long as they are handled in accordance with the general welfare laws and regulations, but when private business becomes a menace to the community at large, it must be properly guided and directed by supervisory restrictions. Our live stock wealth is prodigous—the largest of any nation in the world, as the following brief statistics indicate:

We had January 1, 1918, cattle valued at $3,159,221,000.00.

We had January 1, 1918, swine valued at $1,361,242,000.00.

It is a fact well recognized in all campaigns of disease eradication that the primary principle to put in operation is to put a stop absolutely to the dissemination of infection by disease-bearing persons or animals. The Congress of the United States recognized that principle when, in 1884, it provided, in Section 6 of the Act approved May 29, that no person, firm or corporation shall move or permit to be moved interstate any animal affected with any contagious, infectious or communicable disease, except cattle infected with the tick may be moved for immediate slaughter.

The opinion prevails largely that by revoking even that one exception tick eradication would have been greatly stimulated in localities where only a lukewarm sentiment prevails. The Southern Cattlemen's Association, representing, at least, the majority view of the live stock owners of twelve States, has unanimously adopted, for five consecutive years, resolutions petitioning Congress to prohibit by law the interstate movement of tick-infested cattle at any time for any purpose.

Under the provisions of the above-mentioned Act neither a tuberculosis cow nor hog may be moved from the confines of one State into any other State or the District of Columbia, but, as a matter of fact, they do move every year by the thousand. It might seem that some official was derelict in his duty in not checking that traffic or prosecuting the perpetrators. The reason, however, that the latter course is so infrequently followed is due to the difficulties of obtaining positive evidence that the consignor knew at the time the movement was made that the animal or animals were actually diseased. We may have knowledge that a certain person deals, almost exclusively, in tuberculous cattle, but it is more difficult to convict such a person than is usually believed, a demonstration of which is shown by the length of time it took to obtain the evidence to convict a notorious dealer in tuberculous cattle who was sentenced by a United States judge to eight years' imprisonment in a Federal penitentiary and to a fine of $3,000. The time to put up the bars against the traffic interstate in tuberculous cattle is imperatively at hand. In this respect the state departments and the Federal government should act conjointly.

Areas Affected With Tuberculosis.

One-half of the square area of the United States is comparatively free from bovine tuberculosis, a condition which is as pleasing to know as it is fortunate. The coöperative work that has now been in progess with the various States for nearly one year and the tuberculin testing done under State supervision prior to that time is the basis upon which the foregoing statement is predicated. In at least one-half of the area of the United States tuberculosis among cattle exists to less than one per cent. The majority of the tuberculin testing done in the States where we believe the disease exists to such a limited degree was confined to the herds within close proximity to towns and cities into which cattle had been introduced from other States. For instance, during the month of June, 1918, in Alabama, out of the 926 cattle tested, 65 animals had been introduced into the State recently. Of the 65 cattle, 11 reacted to the tuberculin test. Of the 858 native Alabama cattle tested during the month, one reactor was found. Practically all of the dairy cattle in Madison and Montgomery counties of that State have been tested and a very slight degree of infection found. The same conditions prevail throughout the area in which it is believed that the native cattle are almost entirely free from tuberculosis

SUMMARY OF TUBERCULOSIS ERADICATION WORK IN CO-OPERATION WITH VARIOUS STATES, FISCAL YEAR 1918.

STATES	Cattle Tested	Number Reacting	Number Reactors Slaughtered	Percentage Reacted
Alabama	4,083	44	8	1.2
Arizona	....	..	..	..
Arkansas	136	..	..	..
California	....	..	..	..
Colorado	....	..	..	..
Connecticut	592	42	36	7.11
Delaware	71	..	..	..
District of Columbia	1,206	12	10	.99
Florida	456	37	36	8.00
Georgia	4,563	170	152	3.70
Idaho	1,454	90	63	6.19
Illinois	2,508	590	42	23.52
Indiana	2,325	107	91	4.65
Iowa	197	29	14	14.72
Kansas	...	..	..	..
Kentucky	838	8	..	.96
Louisiana	1,093	20	7	1.83
Maine	4,706	184	139	3.91
Maryland	3,171	170	143	5.36
Massachusetts	2,004	235	154	11.73
Michigan	3,769	203	164	5.39
Minnesota	12,138	493	512	4.06
Mississippi	1,944	21	11	1.80
Missouri	19	1	1	5.26
Montana	10,684	485	319	4.54
Nebraska	...	..	..	..
Nevada	...	..	..	..
New Hampshire	249	17	6	6.83
New Jersey	570	29	29	5.09
New Mexico	567	6	6	1.06
New York	196	30	27	15.31
North Carolina	2,108	63	22	2.99
North Dakota	14,869	502	260	3.38
Ohio	3,360	153	71	4.55
Oklahoma	...	..	..	..
Oregon	1,805	62	30	3.43
Pennsylvania	1,045	60	24	5.74
Rhode Island	163	13	8	8.00
South Carolina	3,594	89	52	2.48
South Dakota	1,246	86	14	6.90
Tennessee	2,684	111	70	4.14
Texas	936	20	16	2.14
Utah	4,019	65	60	1.62
Vermont	7,472	989	863	13.24
Virginia	18,627	548	491	5.90
Washington	1,424	84	33	2.94
West Virginia	257	7	6	2.72
Wisconsin	3,087	70	3	2.26
Wyoming	...	..	..	..
Totals	126,229	5,945	4,005	3.91

Viewing the situation, therefore, from the point of view that the native herds are not tuberculous, is it not a rational deduction that we have drawn? If you will grant that the custodians of the health of animals possess such an extraordinary strategic advantage in this campaign, is there any person who has any doubt as to the proper action that should be taken? If those states which

are so fortunately situated, and the Congress of the United States, would agree to take charge of and purchase every tuberculous animal found therein, it would be possible, in ten years, to have one-half of the country free from the greatest menace to the live stock industry extant. We are not certain that there are not more states which, by virtue of their freedom from disease, are entitled to be placed in the same class. Nothing would cause more satisfaction than to learn that a number of other states possessed less than one per cent of tuberculosis in their herds. Do not conclude that we are suggesting, at this time, the establishment of a quarantined area and a free area, or the issuing of unreasonable or impracticable regulations governing the interstate movement of cattle, but, if we are to make progress in tuberculosis eradication, every possible agent must be employed to stop the movement of diseased animals. In the vast empire of the West, which was a "no-man's land" but a few decades ago, there is a determination upon the part of the cattlemen and the veterinarians to keep out disease of every nature. They are perfectly capable of taking care of that work, but as a further precaution they should be protected by adequate regulations governing the interstate movement of cattle for purposes other than immediate slaughter. The Southern States, with the exception of Texas, is virgin territory for the development of the dairy and beef cattle industry. However, it is developing more rapidly than the most sanguine live stock man dared dream of ten years ago. The veterinarians of the South—and many of us—have a special interest in those states because we contributed to making it possible to build up the cattle industry by eradication of the tick. Those states have experienced untold hardships and have made many sacrifices in their struggle to gain a place in the sun, but, thank God, they are now in the bloom of prosperity and will keep on improving agriculturally as long as they follow the principles laid down by such leaders as Butler, Dalrymple, Cary and the other able agricultural workers who have devoted the best years of their lives to educational work. The veterinarians of the South —like those of other parts—have gained the implicit confidence of their people, who will go the limit in acting upon their advice. They have helped to lead them into the cattle business from the one-crop system in vogue for half a century. Will you not help them to develop that industry upon a sound foundation by helping to keep tuberculosis out of those states?

Regulations Are No Hindrance to Live Stock Development.

The effect of restrictions governing the interstate movement of live stock upon a state or a group of states has not meant destruction and bankruptcy for the industry affected, as you can attest. Did the rigid quarantine placed around the sheep-raising states for scabies ruin that industry? Let the sheepmen testify to that. Were the Western States ruined because of the cattle scabies quarantine? Ask the cattlemen who were affected by it. Was the South ruined by the quarantine imposed to restrict the movement of the cattle tick North? Out of that quarantine came the emancipation of the cattle industry. Were the several quarantines promulgated in connection with foot and mouth disease ruinous to America's live stock?

Without those quarantine measures we would be shackled to a chain of devastating plagues that would have enslaved us forever. Gentlemen, shall we go on, year after year, victims of our own indecision? Or shall we have the temerity to face the tuberculosis menace as we grappled with the previous foes and brought them under subjection? Is tuberculosis the master of us? Or shall it be conquered? We must now, in 1918, take issue with this foe and let the conflict decide who shall be master and who subservient. In all previous conflicts in the United States disease has met its Waterloo for two principal reasons, *i. e.*, first, we have had the support of the people, which is, at least, 75 per cent of the battle, and, secondly, we have attacked with efficient organizations. It is organization work that counts. In all police control work it is the organization that commands. Individual effort, no matter how skillful it may be, is absolutely limited in its power to accomplish results both by lack of authority and restriction of the field of activity.

The establishment of uniform state regulations respecting the interstate movement of cattle would, beyond a peradventure, be the greatest stride that could possibly be made in tuberculosis eradication work. It would not impose the death-blow upon any state or any herd of cattle. It would not be a stigma upon any state or cattle owner. It would not be a reflection upon any state veterinary association or upon any individual veterinarian. It would not prohibit the interstate movement of cattle, except tuberculous cattle—and who challenges the right by law of the legislature, or by moral law, to prohibit the interstate movement of diseased cattle?

There are some individuals who, apparently, have been inspired with the ambition to gather together all the reactors that are permitted to be moved promiscuously within the commonwealth without any permanent mark of identification upon them. Some of these cattle are tested, and tested, and tested again, until they are practically immune to thermal response and, frequently, they are sold as healthy cattle for interstate shipment. There are not a great many nefarious dealers of that calibre, and putting them in some other business would relieve the cattle industry of no indispensable members.

Under the proposed uniform regulations, healthy cattle would be permitted to be moved interstate at any time and for any purpose; the movements would be made without delay, and, on the whole, business would not be interfered with.

The Feasibility of Eradicating Tuberculosis.

The eradication of tuberculosis—you will grant—is a large task. Its feasibility will have to be established first as was the case with tick eradication and the other movements of similar proportions.

As the campaign progresses there is no doubt that improvements will be made until an efficient system is developed. In arriving at some conclusion that is a basis for believing that tuberculosis may be eradicated, we must recognize the work accomplished in many of our states and in foreign countries. No doubt every state official and practicing veterinarian here can point to herds which, a few years ago, were diseased, but which have, since, been freed of tuberculosis and are now free. When you succeed in cleaning up one or several herds you are inspired with a confidence that the same application of methods extended over a greater area will succeed in the same ratio. Haven't some of you in mind herds which, if you had been given a free hand, or if you had the work to do over again, you could clean up? Were there not animals in some herds which you gave the benefit of the doubt to, in diagnosing the test, and which by reason of your wider experience you would now class as reactors? No claim is made that we are better able to interpret the results of the tuberculin test now than at any other period, except that, with each individual, the more experience he has, the better equipped he is to determine the reliability of that product, providing he has been a student of the test. If he has used tuberculin for twenty years and has measured its capabilities by rule of thumb method he is no more capable of making a diagnosis today

than when he commenced. Some of you, no doubt, are acquainted with the results obtained in eradicating tuberculosis from circumscribed areas, but, as such data is not at hand, we will consider the results of the campaign which has been in progress in the District of Columbia since 1910. Through a coöperative arrangement with the Commissioners of the District, the Bureau detailed inspectors to test all the cattle within that municipality, which amounted to 1,701 head; 18.87 per cent reacted and were all slaughtered. The results of the following years' tests are as hereinafter indicated:

1911	3.71
1912	2.30
1913	1.83
1914	2.03
1915	1.75
1916	1.10
1917	.84
1918 (not as yet completed)	

The order of the Commissioners, dated November 26, 1909, regulates the movement of cattle into the District by requiring that no animals shall be brought, except by permit, and that they shall be tuberculin-tested by an official of the Bureau. Without that provision the task of eradicating the disease would be extraordinarily increased. It is one of the most practical provisions of the whole campaign and has been demonstrated by its practical operation for more than ten years. For about the same period of time hundreds of herds in the States of Maryland and Virginia have been under supervision, with approximately the same results. In fact, wherever and whenever a rational method has been employed the results have been satisfactory. As might be expected, however, there are exceptional herds in which the disease persists to a slight degree, for some reason. These exceptions, while perplexing, should not discourage either the inauguration or the continuation of tuberculosis eradication work in any state. Within every state, sooner or later, a campaign of tuberculosis eradication should be carried on and just as quickly as a county becomes clean of the infection, or the infection becomes reduced to a small number of herds, it should be placed in the free area. From the restricted area cattle could be moved into the free area for immediate slaughter with no more regulatory provisions than exist right now. From most of the states,

therefore, 98 per cent of the cattle shipped would go forward, as now, without interference. The balance of the cattle moved for dairy or breeding purposes should be limited only to herds the health of which is known and which are either free from tuberculosis or under supervision for the eradication of that disease.

The question arises, Are there a sufficient number of healthy herds to furnish the annual supply of animals to the other states for the aforementioned purpose? There will be within the time in which it will be possible to put the proposed plan in operation. During the interim, however, the states particularly affected might develop their organization so as to handle the situation. With adequate attention there should not be any extraordinary inconveniences encountered. Of course, it would be ludicrous to expect that some individuals would not be put to considerable annoyance by reason of the fact that tuberculosis had not been dealt with in his herd with the idea of exterminating it. Every assistance should be given to those owners to establish their herds upon a sound and safe basis at the earliest date possible.

Tuberculosis Eradication Methods.

How shall we proceed to eradicate tuberculosis from a state? Unfortunately, it is impossible to outline a positive plan which, if faithfully practiced for ten to twelve months, will transform a diseased into a healthy herd, as may be done in the eradication of other diseases. In Texas fever nine months' dipping of cattle in arsenical solution every two weeks will, positively, eradicate the tick from any given area where the plan is followed. No one plan has yet been evolved for the eradication of tuberculosis that can be applied in every state. What may prove highly successful in one section would be inapplicable entirely elsewhere. For instance, to advocate the destruction of all reactors in a state where 20 per cent of the cattle are affected would be inadvisable. To attempt to slaughter them where the percentage is in advance of that would be a criminal waste, but to fail to destroy tuberculous cattle in states with less than 2 per cent of infection would be equally unfair, unsafe, and unwise. To determine the number of diseased animals in a given area it is, of course, necessary that all shall be tuberculin-tested. The length of time it will take depends upon the number. In a county with 10,000 head of cattle ten inspectors and assistants could make the rounds in from one to two months, depending upon the method employed,

the aid given by the people and the percentage of disease found. If but one per cent was found, they could be slaughtered under inspection, the owners indemnified by the county or state and the Federal government; the barns or sheds where the diseased animals had been kept should be thoroughly cleaned and disinfected under supervision. That plan would, necessarily, have to be repeated annually for a few years and then, at longer intervals, as long as infection remains. Where a larger number of reactors are found they would have to be cared for by the method previously decided upon and officially adopted by the state in which the campaign was being conducted. Most certainly a carefully considered policy should be provided for before the campaign is inaugurated. The establishment of tuberculous herds under state supervision may prove a wise solution of the problem in badly infected sections. Herds containing 75 per cent or more of reactors should be classified as wholly tuberculous; herds containing less than 75 per cent of reactors should be divided, the healthy animals being retained and the others moved to separate farms, preferably to farms maintained exclusively for diseased herds under supervision. The remnant of the herds which was found apparently free should be retested at proper intervals, which will probably disclose additional reactors.

Cooperation Necessary for Success.

It is considered necessary to emphasize, at this point, that these proposed operations will be possible only when the owners, herdsmen, manager and everybody connected with the herd is bent upon accomplishing tuberculosis eradication. In all the campaigns of disease extermination a considerable number of people were found who knew, positively, that that particular work could not be accomplished because, as they stated, the plan was impracticable and could not possibly be put in operation. The opposition encountered on other occasions will dwindle into insignificance compared with the avalanche of criticism, skepticism and bellicosism that will arise directly after this work is inaugurated in some sections. The fact, however, that we will be subjected to harsh criticism should not deter any official from inaugurating the campaign of tuberculosis eradication after he has satisfied himself and his advisers in the state that it is the proper thing to do. Talk it over with your people. Let them consider it deliberately. Do not try to force the issue. But advocate it on all occasions as a sound, economical policy. If

you, on the other hand, hold the view that the tuberculous cow is dangerous only when you, perchance, discover that it is a spreader, consider seriously the predicament your constituents will be placed in should other states refuse to accept their cattle.

TUBERCULOUS COW IS TOO DANGEROUS FOR A HEALTHY HERD.

We are of the opinion that, as sanitarians, we should consider the tuberculous animal dangerous at all times; not that it should, necessarily, be destroyed, but its introduction into healthy herds should be discouraged under any circumstances.

The Chief of the Bureau, Dr. John R. Mohler, in Bulletin No. 44, published in 1903, concluded from exhaustive experiments regarding the infectiousness of milk of cows which have reacted to the tuberculin test that:

"1. The tubercle bacillus may be demonstrated in milk from tuberculous cows when the udders show no perceptible evidence of disease, either macroscopically or microscopically.

2. The bacillus of tuberculosis may be excreted from such an udder in sufficient numbers to produce infection in experimental animals both by ingestion and inoculation.

3. That in cows suffering from tuberculosis the udder may, therefore, become affected at any moment.

4. The presence of the tubercle bacillus in the milk of tuberculous cows is not constant, but varies from day to day.

5. Cows secreting virulent milk may be affected with tuberculosis to a degree that can be detected only by the tuberculin test.

6. The physical examination or general appearance of the animal can not foretell the infectiveness of the milk.

7. The milk of all cows which have reacted to the tuberculin test should be considered as suspicious, and should be subjected to sterilization before using."

More than ten years ago Dr. Schroeder said, in his bulletin entitled "Some Facts About Tuberculous Cattle," that:

"The tubercle bacillus grows and multiplies nowhere in nature but in the bodies of tuberculous persons, cattle, and other animals, but it can live separated from these bodies for periods of time that vary in length according to the conditions by which it is surrounded. In sunlight it dies very rapidly, and in dark and damp places, protected from light and drying, it may live many months." Continuing, he said: "A tubercle bacillus can no more come into existence without a parent tubercle bacillus than,

for example, a cornstalk can come into existence unless it does so as the offspring of a parent cornstalk. The body of an animal can not create or spontaneously generate a bacillus any more than a seedless patch of earth can spontaneously originate a cornstalk. Hence, as the tubercle bacillus is the indispensable cause of tuberculosis, and grows and multiplies nowhere in nature but in the bodies of tuberculous subjects, it follows naturally that every case of tuberculosis is the direct result of infectious material, expelled from the body of a previously tuberculous subject that has found its way into the body of a subsequently tuberculous subject." The same eminent authority pointed out, several years ago, that 40 per cent of tuberculous cows expell tubercle bacilli from their bodies in a way that is dangerous to the health of other animals and persons through open lesions in the respiratory tract, or organs of reproduction, and, mainly, through ejecta from their bowels. He said: "The tuberculous cows that expel tubercle bacilli from their bowels frequently begin to do so long before they show signs of their diseased condition."

Dr. Udall, in his excellent report published in the Report of the New York State Veterinary College, 1915-16, entitled "Further Report on the Diagnosis of Open Cases of Tuberculosis," quotes the solemn warning of Prof. Bang to cattle owners. The eminent Dane said: "Owners of cattle ought to prevent the contamination of calves and other animals still healthy." That is a quotation which should serve as a commandment—like the time-honored mottoes—which should be hung up in the old-fashioned way in every barn in America to remind the owners of the homely adage that "*An ounce of prevention is worth more than a pound of cure.*" Could these simple principles only have been indelibly impressed upon the minds of cattle owners and have been put in practical operation, we would have advanced a long way in tuberculosis eradication. *It is the tuberculous animal that is dangerous;* and it is only by separating the tuberculosis-diseased animals from the healthy ones and bringing up the young under healthy environments that sound herds can be maintained. Can it be explained why an animal expelling organisms per rectum is less a source of danger than one found to be a spreader through the mouth or nasal passages? The thought is foreign to the mind of the speaker to take issue with any authority respecting any plan he has found efficacious in freeing a herd from tuberculosis. We are too conscious of the

tremendous superiority of our contemporaries to become engaged in any debate on the merits of their plans.

The Bang Method in America.

However, we are compelled to take an inventory of how well we have succeeded in the United States by the practice of the Bang method; how many states have adopted that plan and how many herds in each state have been cleaned up thereby. It is not too late now to put it in operation if there is a reasonable prospect of carrying it to a successful conclusion. That it has succeeded—and other methods have succeeded under the supervision of their authors—is an undisputed question; but why we have not availed ourselves of them may be due to our national characteristic—to do things with great expedition. Have we tried the Bang method as that illustrious veterinarian would execute it? If so, that owner has succeeded. When the owner or herdsman or other employee has taken milk from the Bang herd and deposited it in the same cans into which the milk from the healthy herd is placed, and fed the contents to healthy calves, the Bang method has failed, and will continue, inevitably, to fail under such practices. Neither will the Bang method succeed when pasteurized milk from the infected herd is fed under the following conditions, which have come to the notice of the Bureau. It is our common experience in testing herds periodically to find new reactors at each succeeding test. The case reported is of a herd conducted under the Bang method. Reactors were found in the supposedly healthy herd at each test, which continued to be an enigma until it was discovered that the pasteurizing receptacle, which had a capacity of 100 gallons, was constructed in the following manner: the receptacle was of about 100 gallons' capacity, and the contents were heated and agitated by a spiral revolving coil of copper pipe, in which circulated steam. The milk within the pasteurizer was brought to a proper temperature, and held for thirty minutes, this leading the operator to believe that the milk was properly treated, which was actually the case as far as the process was concerned. At the end of the receptacle, however, was a drain pipe of ¾-inch diameter and three feet long with a faucet at the distal end. When milk was poured into the pasteurizer preparatory to heating, this pipe filled down to the faucet and its contents were not even warmed; consequently, the first bucket of milk drawn off contained this volume of unheated milk, and the calf fed this

bucketful got some unheated milk from the tuberculous cows. The moral of this case is to show the necessity of combining general observation in endeavoring to eradicate tuberculosis from any herd of cattle.

Tuberculosis Not Eradicated Easily.

In eradication work one tuberculin test with the removal of the reactors is not going to clean up many herds. The testing must be repeated at semi-annual intervals for two or three tests, after which, in most cases, annual tests will be sufficient. How long they should be continued is indeterminable; but we have reason for believing that the results will be so satisfactory up to this stage of the campaign that public opinion will support the continuation of a well-conducted campaign thereafter. If the time must be estimated in which a county or group of counties may be practically freed from tuberculosis, the problem will have to be calculated upon, first, the coöperation of the people, and, secondly, the efficiency of the organization doing the work.

Accredited Herd Plan.

You are all acquainted with the Uniform Method for Accredited Pure-Bred Herds of Cattle Found Free from Tuberculosis, which was unanimously adopted by the United States Live Stock Sanitary Association, approved of by a committee representing the pure-bred associations, and adopted by the United States Department of Agriculture. The provisions of the plan are as follows:

UNIFORM METHODS AND RULES FOR TUBERCULOSIS-FREE ACCREDITED HERDS OF PURE-BRED CATTLE.

1. A tuberculosis-free accredited pure-bred herd is one which has been tuberculin tested by the subcutaneous method, or any other test approved by the Bureau of Animal Industry, under the supervision of the Bureau of Animal Industry, or a regularly employed veterinary inspector of the state in which cooperative tuberculosis eradication work is being conducted jointly by the United States Department of Agriculture and the state. Further, it shall be a herd in which no animal affected with tuberculosis has been found upon two annual or three semi-annual tuberculin tests, as above described, and by physical examination.

2. The entire herd, or any cattle in the herd, shall be tuberculin tested or retested at such times as considered necessary by the Federal and state authorities.

3. No cattle shall be presented for the tuberculin test which have been injected with tuberculin within sixty days immediately preceding or which have at any time reacted to a tuberculin test.

4. No herd shall be classed as an accredited herd in which tuberculosis has been found by the application of the test, as referred to in paragraph 1, until such herd has been successfully subjected to two consecutive tests with tuberculin, applied at intervals of not less than six months, the first interval dating from the time of removal of the tuberculous animal from the herd.

5. Prior to each tuberculin test satisfactory evidence of the identity of the registered animals shall be presented to the inspector. Any grade cattle maintained in the herd, or associated with animals of the herd, shall be identified by a tag or other marking satisfactory to the state and Federal officials.

6. All removals of registered cattle from the herd, either by sale, death, or slaughter, shall be reported promptly to the said state or Federal officials, giving the identification of the animal, and, if sold, the name and address of the person to whom transferred. If the transfer is made from the accredited herd to another accredited herd, the shipment shall be made only in properly cleaned and disinfected cars. No cattle shall be allowed to associate with the herd which have not passed a tuberculin test approved by the state and Federal officials.

7. All milk and other dairy products fed to calves shall be that produced by an accredited herd, or, if from outside or unknown sources, it shall be pasteurized by heating to not less than 150 degrees Fahrenheit, for not less than twenty minutes.

8. All reasonable sanitary measures and other recommendations by the state and Federal authorities for the control of tuberculosis shall be complied with.

9. Cattle from an accredited herd may be shipped interstate, by certificate obtained from the office of the state live stock sanitary officials of the state in which the herd is located, or from the office of the Bureau of Animal Industry, without further tuberculin test for a period of one year, subject to the rules and regulations of the state of destination.

10. Strict compliance with these methods and rules shall entitle the owners of tuberculosis-free herds to a certificate, "Tuberculosis-Free Accredited Herd," to be issued by the Bureau of Animal Industry and the state live stock sanitary authority. Said certificate shall be good for one year from date of test unless revoked at an earlier date.

11. Failure on the part of owners to comply with the letter or spirit of these methods and rules shall be considered sufficient cause for immediate cancellation of coöperation with them by the state and Federal officials.

There is no doubt but what it could be improved upon, but we should wait until it has been in operation for one or two years, when we will be better informed of the changes which should be made. Any suggestions for amending it should be sent to the Chairman, Committee on Tuberculosis Eradication, Dr. W. F. Crewe, Bismarck, North Dakota. The Accredited Herd Plan has received a cordial reception from the breeders of cattle in every section of the country, and in practically every state. It has been adopted also by the live stock sanitary officials of virtually every state in the Union. It has met with approval largely because its practicability appeals to the practical business breeder and the live stock sanitary officials. It is purely a voluntary measure enforced by no law or regulations, but by the mutual agreement between the live stock owners and live stock sanitary officials. Every state has agreed to accept the cattle from accredited herds in accordance with the provisions set forth in the uniform plan. That is a great stride in the adoption of uniform live stock regulations. The accredited list, a publication which contains the names of the owners of fully accredited herds and

also of those herds which have passed one successful tuberculin test without reactors, was recently issued by the department and distributed to 50,000 persons, firms, and corporations associated with the cattle industry. We believe that this pamphlet will prove to be a great stimulus in furthering interest in accredited herd work. It should set the owners who are not included in the list thinking, and no doubt will be the means of furnishing additional applications for official tests from every state. There are many herds which, unfortunately, could not be included in the list because at the time of the testing one or two reactors were found. It would seem advisable that, in addition to advertising the names of the owners of the free herds, the names of the owners of herds having less than two or three per cent of reactors should be included, providing the owners approve of such action. There are herds in which less than three per cent of reactors have been found from which most of us would consider it reasonably safe to purchase animals and, certainly it would be far safer to buy out of such herds than from those the condition of which is not known. The owners of accredited herds could certainly obtain such publicity through the lists which are being distributed as could not be purchased in any other way; and it does seem only a fair proposition to acquaint the public with the fact that there are herds which are free from tuberculosis. It was possible to accredit a considerable number of herds soon after the adoption of the plan because Minnesota, Wisconsin and other states had been conducting the work, under state supervision, for some time, and the Bureau had been engaged likewise for nearly ten years. Satisfactory arrangements for coöperative tuberculosis eradication work have been made in about forty states, and state and Federal inspectors are prepared to tuberculin-test pure-bred herds that the owners are desirous of establishing as accredited.

Uniform Cooperative Agreement Governing Tuberculin Test.

A uniform plan of agreement, between the state, the Bureau and the owner, is now in operation quite universally. The agricultural appropriation bill for the fiscal year terminating June 30, 1919, contains an appropriation of $500,000 for tuberculosis eradication work. It further provides partial indemnity to owners of cattle which are destroyed and also permits the interstate shipment of tuberculous cattle under regulations promulgated by the Secretary of Agriculture. The tuberculosis item in the bill is as follows: In pursuance of the above-mentioned Act of

Congress regulations were promulgated by the Secretary of Agriculture, and I take the liberty of quoting some of the more important sections of them:

Regulation 5. To Prevent the Spread of Tuberculosis in Cattle and Swine.

Section 1, Paragraph 1. Pure-bred registered cattle or grade cattle affected with tuberculosis as disclosed by a physical examination or by the tuberculin-test, or by any other means, may be shipped to a public stock yards where Federal inspection is maintained and sold for immediate slaughter under Federal inspection, provided the following conditions are strictly observed and complied with:

Paragraph 1. (a). The cattle shall be marked for identification by a brand, T. R. on left jaw not less than two inches nor more than three inches high, or a letter T not less than one and one-half inches long nor less than one inch wide, shall be punched out of the left ear, or a letter T not less than one inch long and one-half inch wide shall be tattooed on the inside of the left ear.

Section 1, Paragraph 2. Pure-bred registered cattle affected with tuberculosis as disclosed by a physical examination or by the tuberculin-test, or by any other means, which had been shipped interstate accompanied by a health certificate and tuberculin-test chart issued by an inspector of the Bureau of Animal Industry, a state veterinarian, an assistant state veterinarian, or a veterinarian approved of by the live stock sanitary authorities of the state from which the shipment or movement was made, indicating that the animal or animals is or are free from tuberculosis and any other contagious, infectious, or communicable disease, may be reshipped interstate within six months from date of entry into any state for immediate slaughter, provided the following conditions are strictly observed and complied with:

Paragraph 2. (a) The original and retest tuberculin-test charts shall be submitted to an inspector of the Bureau for examination and shall show satisfactory evidence that both tests were properly conducted.

(d) The shipment or movement otherwise shall be accompanied by a certificate issued by an inspector of the Bureau.

(e) The cattle shall be consigned to original shipper and to the same point of origin as indicated upon the tuberculin-test chart.

(f) The cattle shall be placed under quarantine as soon as received at destination and shall not again be offered for interstate shipment except for immediate slaughter.

Section 4. No cattle shall be shipped interstate from herds known to contain or to have recently contained tuberculous cattle, unless and until such cattle have been subjected to the tuberculin-test and are accompanied by a certificate showing that the cattle are free from tuberculosis, issued by a Bureau inspector or a regularly employed state inspector engaged in coöperative tuberculosis eradication work.

The following excerpts are taken from the regulations governing the appraisement of tuberculous cattle and the compensation to owners of such cattle when so destroyed and slaughtered under the Meat Inspection Law:

Regulation 3. Coöperative Agreements.

Section 1. If it appears to be necessary for the arrest or eradication of tuberculosis to destroy tuberculous animals and to compensate owners for loss thereof, the Chief of the Bureau may, in his discretion, expend in the City of Washington, or elsewhere, not to exceed one-third of the difference between the appraised value of such animals and the value of salvage thereof, not to exceed $25.00 for any grade animal or $50.00 for any pure-bred animal.

Section 2. No payment hereunder shall exceed the amount paid or to be paid by the state, county, or municipality where the animal shall be destroyed.

No compensation can be paid to owners of tuberculous cattle except in states, counties, and municipalities in which coöperative tuberculosis eradication work is being conducted.

Regulation 4. Appraisal of Animals.

Section 1. Animals affected with tuberculosis will be appraised by a representative of the Bureau and a representative of the state, county, or municipality, jointly, except that if the owner and state, county or municipal authorities approve, animals may be appraised by representatives of the Bureau alone.

Section 2. Bureau inspectors in charge of the work of eradication of tuberculosis in any state, or in any part of the state, may act as appraisers of animals and may detail competent Bureau employees under their direction to act as appraisers.

Section 3. Dairy cattle shall be appraised at their dairy or breeding value; all other cattle shall be appraised at their meat or breeding value.

Section 4. Appraisals of animals shall be reported on forms furnished by the Bureau (T. E. Form 23). Reports of appraisals shall show the number of animals and the value of each per head or the weight and value per pound.

Section 5. When the appraised cattle have been slaughtered and the amount of salvage ascertained, reports in triplicate shall be made, signed by the appraiser and owner, showing the appraised value of the animals, the salvage obtained, the difference between the appraised value and salvage, the amount of money paid or to be paid by the state, county or municipality and the reimbursement to be paid by the Department; one copy to be attached to the voucher in which compensation is claimed, one copy to the state, county or municipality's authorities, and one copy to the owner of the cattle.

Section 6. Each owner of tuberculous cattle, which have been appraised, shall market them within thirty days and shall obtain from the purchaser reports in triplicate (T. E. Form 24) certifying as to the amount of salvage obtained. The owner shall also secure from the purchaser an affidavit (T. E. Form 25) showing the amount of money actually paid for the animals. This affidavit shall be attached to the voucher in which compensation is claimed.

Regulation 9. Claims Not Allowed.

Section 1. No payment shall be made for any animals destroyed on account of tuberculosis unless the owner has complied with all lawful quarantine regulations and the owners thereof shall have executed agreements in compliance with these regulations.

Section 2. No payment shall be made hereunder as compensation for or on account of any such animals destroyed, if, at the time of inspection or test of such animals, or at the time of the destruction thereof, it shall belong to or be on the premises of any person, firm or corporation to which it has been sold or delivered for the purpose of being slaughtered.

Section 3. The Department will not allow claims arising out of the condemnation of cattle for tuberculosis on a tuberculin-test applied by other than a Bureau employee or a regularly employed state, county or city veterinarian.

The Assistance of All Is Necessary for a Successful Campaign.

In order that the campaign for the eradication of tuberculosis from live stock may achieve the success it justly deserves, the full coöperation and assistance of all those who are interested must be obtained, and this is, especially, true in the case of the veterinarian engaged in private practice. He has been engaged in the tuberculin-testing of cattle for many years and has accomplished a creditable amount of good results, but it is believed that much more could be accomplished by having the work more uniform and under official supervision, as far as possible. It has been said that "the practicing veterinarian can not be expected to give the

campaign his full support when he is being deprived of some of the means of his livelihood, which are received from tuberculin-testing of cattle." When tuberculin tests are made by the state or Federal veterinarians the owner of the herd is not required to pay for the testing, and this may, of course, result in the practitioner losing some business. Under the present rules of the Uniform Plan for Accrediting Tuberculosis-Free Herds of Pure-Bred Cattle it is required that tuberculin tests be made by a veterinary inspector of the Bureau of Animal Industry, United States Department of Agriculture, or a regularly employed veterinary inspector of the state in which the coöperative tuberculosis eradication work is being conducted. However, the owner of the herd may employ his own veterinarian to assist in the test, or act as counsel, and such an action on the part of the owner is encouraged by the state and Federal officials engaged in this work. The veterinarian engaged in private practice is in a position to render very valuable service to this campaign, and it is felt that he will, in most cases, be very willing to make some sacrifices to this end. He is in a position to encourage the accredited herd plan, being in daily contact with the breeders of pure-bred cattle in his territory, and by encouraging the plan many owners will be induced to coöperate and place their herds under official supervision. The campaign is now a national problem, and must be officially conducted, but, as it will be impossible for the states and national government to furnish sufficient help to tuberculin-test all of the cattle in the country, the veterinarian engaged in private practice will, naturally, be employed by the owners to make tuberculin-tests in a great many cases. These veterinarians will be in touch with the official veterinarians, making it possible for them to consult, without much trouble, with these officials when necessary; and the plan of having official veterinarians stationed in various parts of the country will be the means of having tuberculin-tests uniformly conducted. No doubt the practicing veterinarian's business will, ultimately, be greatly benefited by the increased interest which will be aroused for healthier live stock in every section of the nation. This is the history of the veterinary practice in the areas from which the "tick" was eradicated. The time was when, in the South, a considerable part of the veterinarian's income was derived from fees obtained for treating cattle for tick fever and other work made necessary by the presence of "ticks"; but, as soon as the veterinarians of the South were aware that a campaign "was on" for the complete extermination

of the "ticks," they furnished valuable coöperation in nearly every instance. Intimately associated with "tick eradication" for eleven years, the speaker is proud to report that he never knew, nor has he ever heard, of one qualified veterinarian who opposed that work either on the ground that it was depriving him of his "bread and butter" or for any other reason. We will all work together in this great campaign with the same ideal to guide us, namely, to preserve, protect and perpetuate a greater and grander live stock industry in this the gratest nation in the world—a nation that will, if necessary, give millions of her sons and daughters, and every dollar it possesses, to preserve the rights of every citizen and the cause of liberty.

THE VETERINARY SERVICE OF THE ARMY OF THE UNITED STATES.*

Major JOHN P. TURNER, V. C. N. A., Washington, D. C.

The first mention of the word "Veterinary Surgeon" in Acts of Congress relative to the army is in the Act of March 3, 1863, abolishing the grade of "chief farrier" in regiments of cavalry and substituting the title of veterinary surgeon. He was given $75.00 a month, with the rank of regimental sergeant-major. A decision dated March 23, 1864, that he was not entitled to rations evidently placed him outside of the enlisted personnel of the army, inasmuch as every enlisted man is entitled to a ration. Prior to this, the Act of July 29, 1861, creating a new cavalry regiment in the army, gave one veterinary sergeant, who was rated as a regimental non-commissioned officer.

It seems quite evident that the "chief farrier" was a regimental non-commissioned officer in the old dragoon regiments prior to the Civil War, and when these dragoon regiments were converted into cavalry regiments in 1861, the grade of chief farrier was still carried, and that the new regiments organized in 1861 and the organization that obtained in the volunteer cavalry regiments carried on its rolls a "veterinary sergeant." Farriers were provided in companies of dragoons by the Act of May 30, 1796. A later reorganization provided a farrier-major for each regiment of mounted troops, to superintend the farriers of troops. He was replaced later by a veterinary surgeon. On the roster of Pennsylvania regiments which participated in the

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Battle of Gettysburg July 1, 2 and 3, 1863, there were several regiments of cavalry and it is noticed on the beautiful memorial erected on this field of battle by the State of Pennsylvania in commemoration of its soldiers that the grade of "veterinary sergeant" existed in all the cavalry regiments.

The Act of March 3, 1863, produced a uniform title in all of the cavalry regiments of the regular army, but, as evidenced by the inscription on this monument, the old term, sergeant, still existed in the volunteer regiments. After the Civil War the army was reorganized and in this Act (July 28, 1866) four new regiments of cavalry were added to the army, two of which were to have colored enlisted men.

These four regiments (7th, 8th, 9th and 10th cavalry) were each given an additional veterinary surgeon, who received $100 per month. The veterinary service in these new regiments costing the army $175 per month and in the old regiments $75 per month, yet the same number of horses and mules existed in each regiment.

A few years later the duties of these veterinary surgeons were given in an order which directed that they should visit the stables of their regiments at least once daily and advise the proper officer regarding the treatment of sick or injured animals and that they should instruct the farriers and horseshoers. In a later decision he was given the allowance of quarters, fuel and lights of a sergeant-major. He did not wear a uniform, as he was more of a civilian than a soldier. His position was very much like that of a veterinarian having a contract for the treatment of the horses of a large business concern.

He was appointed by the Secretary of War on the recommendation of the colonel of the regiment and could be removed in the same manner. He could resign at any time. No examinations were required. He had no protection and was not armed. He was not entitled to retirement for long and faithful service, as were both officers and enlisted men; neither was he nor his family pensionable should he be killed in the service or die of contagious disease or be permanently disabled by injuries.

He was without authority in the performance of his duties unless this authority was granted by either the colonel or the troop commanders. In other words, he was a hired civilian with a very anomalous, semi-military status.

Young men from the veterinary colleges would occasionally accept such positions, stay a short time, until they had acquired

some practical experience at the expense of the government, and then resign.

There were no reports to be made. No records of any kind were maintained. He simply doctored the animals.

No mention is made of veterinary service in other mounted branches of the service in the early history of the army.

It is known, however, that the Quartermaster's Department hired civilian veterinary surgeons at many large depots. These men were paid $100 per month. This department had a grade known as inspector of animals and frequently appointed veterinarians to this position. The salary was $1,800 per year.

The social status of the regimental veterinarians varied with the regiment and with the individual and in the same regiment with different colonels. In some regiments the veterinarian was treated as a civilian gentleman and as a member of a profession and was able to do a very fair grade of work and gave considerable instruction to both officers and enlisted men in classes in hippology and horseshoeing. In other regiments the opposite position regarding veterinarians was taken and he was largely interested in drawing his salary and engaging in civil practice.

Supplies were generally plentiful but badly selected and were issued to the troops.

Such was the condition of veterinary affairs in the army until after the Spanish War.

The many and varied veterinary problems presenting themselves to army officers, especially in the military occupation of Cuba and the Philippines, drew their attention to the lack of a proper veterinary organization in the army and in the Act of February 2, 1901, the profession received a slight recognition when they were promoted from the relative rank of a sergeant-major to that of the "pay and allowances" of second lieutenant, mounted, and two veterinarians were allowed to each regiment of cavalry and one to each battalion of artillery.

By a subsequent Act (March 3, 1901) veterinarians were permitted to retire as other officers and this opportunity was taken by several very old veterinarians to retire.

Veterinarians remained in this status for fifteen years. They were not commissioned officers, yet had all of their allowances and privileges, save promotion. They wore undress uniforms, but no shoulder straps.

This grade was only attainable by examination; all men in the service having been examined prior to promotion and those

appointed from civil life were required to be graduates of recognized veterinary schools and were appointed upon the results of a competitive examination.

The reorganization of the army by the Act of June 3, 1916, took all veterinarians from the cavalry and artillery regiments and Quartermaster's Department, merged them into the Medical Department of the army by creating in the latter a Veterinary Corps. This act gave the veterinarians the rank of second lieutenant and after five years' service they were advanced to first lieutenant, after a proper examination. A captaincy was given after fifteen years' service, and an examination, and the rank of major after twenty years' service. This act was very friendly to the veterinary profession, but was of small value to the service owing to the fact that no veterinary enlisted personnel was provided, and the veterinarian continued to be a supplicant to line organizations for enlisted assistants in his hospital and in his professional work in the stables of mounted units. This act provided veterinary service for cavalry, artillery and mounted engineer units, as well as for the Quartermaster's Department, in the inspection of public animals at the time of purchase and for the proper inspection of meat and milk.

The Act of May 18, 1917, gave the President of the United States authority to extend the military service during the war. Under this authority, General Orders No. 130 were issued by the War Department.

This order provided a Veterinary Corps of commissioned officers and enlisted personnel for the army. The commissioned officers of this corps included the veterinary officers of the regular army, the Veterinary Reserve Corps and the National Guard and National Army. This order provided one veterinary officer and sixteen enlisted men for every 400 public animals. The commissioned personnel to be provided in the following grades and ratios: seven veterinarians with the rank of major, twenty veterinarians with the rank of captain, thirty-six veterinarians with the rank of first lieutenant, thirty-seven veterinarians with the rank of second lieutenant. A recent decision of the Judge Advocate General ruled that the rank could be raised to that of colonel. The grades of sergeant (first class), sergeant, corporal, farrier, cook, teamster, saddler, private (first class) and private were provided for the enlisted personnel.

While the Act of June 3, 1916, provided for 118 veterinary officers from the rank of second lieutenant to major, depending

on their length of service, there were but fifty-eight veterinary officers in the army when the United States declared war against the Imperial German Empire, April 6, 1917, and no veterinary enlisted men. At this time there was no organization of the Veterinary Corps; officers were assigned to various combat units and to the Quartermaster's Department. A major of the Veterinary Corps was ordered to duty in the office of the surgeon general during the spring of 1917 to look after veterinary matters. The almost superhuman task of organizing a veterinary corps in time of war, when it had to be expanded from 58 officers to 2,000 officers and 20,000 enlisted veterinary men, presented itself to the service. It was called upon to model after a service and fit into one which had been over 100 years in its making.

The veterinary service called for civilian help, as did all the other branches of the army, and it is not amiss here to say that the veterinary profession has responded splendidly, giving its most experienced and valuable men to the nation's service.

A number of civilian veterinarians, all of whom were familiar with veterinary administrative work, together with the veterinary officers who were on duty in the office of the surgeon general, began work on an organization of the proposed veterinary corps and resulted in the issuance of General Order No. 130, October 14, 1917, which directs that there be provided for the National Army one veterinary officer and sixteen enlisted men for each 400 horses. Special Regulations No. 70, governing the army veterinary service, were approved December 15, 1917, for the information and guidance of the army. This publication may be said to be the keystone of the veterinary organization, for it gave the corps specific instructions as to its duties.

Lieutenant Colonel J. J. Aitken, of the British army veterinary service, arrived in November, 1917, and gave the veterinary service the benefit of his many years' experience. His advice for five months in preparing various forms and returns and in general organization and management were of the greatest aid to the American service and its appreciation is hereby acknowledged to this very efficient veterinary officer.

Special Regulations No. 70 give very specifically the objects of the Veterinary Corps in the following language: "The objects of the Veterinary Corps are to protect the health and preserve the efficiency of the animals in the army."

These objects are to be attained:

(a) Preventing the introduction or extension of communicable disease.
(b) Reducing losses from illness or injury by the prompt application of proper treatment.
(c) Relieving the mobile (fighting) organizations, in the zone of the advance, of the sick or injured animals which might impede their movement.
(d) Treating in hospitals, or lines of communication, the animals which can be restored to a serviceable condition.

The Veterinary Corps also provides for the inspection of meat-producing animals before and after slaughter and of the dressed carcasses, and for the inspection of the dairy herds supplying milk to the army.

The veterinary service is organized and functions as follows:

Veterinary Corps—Headquarters.

The Veterinary Corps is administered through its headquarters, where all orders relative to the service are prepared and issued.

All records of army veterinary activities are also kept here.

Many bulletins regarding military veterinary matters have been prepared here and issued to veterinary officers for their guidance and instruction.

General Inspection Service.—Five zones have been established in the United States, to each of which is assigned a major of the Veterinary Corps for the purpose of general inspection and observation of all veterinary and animal activity in their respective zone. These inspectors report direct to the surgeon general, United States Army, and are not attached to any local organization.

They recommend corrective measures wherever necessary to produce greater efficiency among animals. They inspect the animals of all mounted troops at cantonments and all animals at auxiliary remount depots and ports of embarkation. They likewise inspect the sanitation of hospitals, stables, yards, corrals, depots, stock yards, sales stables, or any place or anything which has to do with creating more efficiency among army animals. Their duties also require them to inspect veterinary officers and enlisted men, to make reports on their efficiency, and to instruct them on military veterinary matters where necessary.

Meat Inspection.—The inspection of all meat and meat products for the army is made a duty of the Veterinary Corps by Act of Congress. This inspection begins at the place of preparation of the food and covers the selection, inspection, covering, weighing, stamping, refrigerating, and loading of all meats.

The selection, cutting, boning, soaking, pickling, sorting, canning, testing of cans, examination of lacquering and packing of all meat products is a part of this meat inspection. The inspection of canned milk, cheese and butter is also provided for. For this inspection at the large packing centers there are over fifty veterinary officers on duty and forty veterinary student officers as assistants. At the distribution end, the inspection is made by either the division meat inspector or camp meat inspector, both of whom are veterinary officers.

Veterinary officers also supervise the loading and unloading of meat on ships at ports of embarkation and also the storage of meat in the immense refrigerating plants provided for receiving and storing army meat and meat products.

The veterinary officers assigned as division and camp meat and milk inspectors also inspect local dairy farms supplying milk to cantonments; tuberculin testing the cows on these farms and making a sanitary inspection of the barns, milk rooms, employees on the premises in general.

Training Camps.—These have to do with the military training of officers and enlisted men for the veterinary service.

The school at Camp Greenleaf, Ga., is attached to the medical officers' training schools and has the benefit of its organization and equipment, particularly for the training of veterinary officers. At this camp a small number of enlisted men are given training. The school at Fort Riley, Kansas, trains a limited number of enlisted men of the Veterinary Corps, its specialties being horseshoeing, baking and cooking. The largest camp is the veterinary training camp at Camp Lee, Virginia, where eighty veterinary officers and over 3,000 men are undergoing a very intensive system of training. The purpose of this school is largely the organization and training of the commissioned and enlisted personnel of veterinary hospitals and army and corps mobile hospitals.

These units are trained, organized and completely equipped at this school and are ready for active service when they march from this camp.

The training is both military and veterinary. Veterinary officers are trained to drill the hospital companies in cavalry drill. They receive instruction in guard duty, camp sanitary duty, making camps, stable duty and in the various useful knowledge that a soldier must know in the field.

The veterinary officers receive a course in equitation, saddling, bitting and the principles of draft. Lectures and practical instruction are given in the care and treatment of army animals on the march, in the field and in the hospital. This course is given to both officers and enlisted men. Enlisted men are taught to be veterinary soldiers in every sense of the word.

Lectures and practical work in horseshoeing, casting, bandaging, dressing wounds; the movement and care of horses by rail and sea; the movement of animals suffering from gunshot wounds.

The recognition of contagious disease is taught these soldiers in a thorough manner, as are also the principles involved in sanitary police.

The training is by lectures and quizzes and is accomplishing wonderful constructive work, which will be a credit to the army and the veterinary service when it gets into action.

At this school a veterinary hospital planned by army veterinarians is being built for the practical training of veterinary soldiers. This hospital has a capacity for 500 animals, but is so arranged that it can be enlarged into a complete veterinary hospital with a capacity for 1,000 animals.

Veterinarians on Duty With Combat Units.

At present, this organization is limited to the veterinary organizations of the typical division. This service consists of one division veterinarian and eleven veterinary officers attached to organizations having animals.

The enlisted force is fifty-one men to each division, equipped as cavalry.

The division veterinarian can advance to the rank of major. The division meat inspector can be either a first lieutenant or a captain.

Two veterinary officers (first or second lieutenant) are attached to each horsed regiment of artillery; one veterinary officer to each infantry brigade and three veterinary officers to the divisional trains. One veterinary officer has command of the division mobile section with twenty-one enlisted men in his force.

The division veterinarian is on the staff of the commanding general of the division, and is responsible to him for the efficiency

and training of the veterinary officers and enlisted personnel, as well as for the veterinary service on the division. He conducts schools of instruction for veterinary officers and sees that they are properly drilled and trained as soldiers, and they in turn pass along this information to the stable sergeants and the enlisted men in the units. The division veterinarian reports direct to the commanding general on all military veterinary matters. The division veterinarian has a division meat inspector, who is a veterinary officer, and three enlisted men.

The typical veterinary unit consists of one veterinary officer, two farriers and one private, or private first class.

The duty of the veterinary officer of these units is to constantly inspect public animals for contagious disease, correct any defects in shoeing, feeding, or stable sanitation; to observe that harness and saddles are properly fitted and cared for; give instruction in stable hygiene to junior officers and stable sergeants; care of minor injuries and sickness and evacuate all serious cases of any kind to the division mobile section, which either cares for such cases or in turn evacuates patients to the veterinary hospitals on the line of communication, depending on how long a period will be required to make the animal serviceable.

Remount Service.—Adjoining each cantonment and at each port of embarkation is an auxiliary remount depot for the reception of public animals after purchase and care of them until issued to troops and for their reception if troops evacuate without their animals.

At these depots certain veterinary officers and enlisted men are assigned by the War Department. The typical veterinary unit at a remount depot is six veterinary officers and seventy-five enlisted men. The number, however, is flexible, and can be increased as the depot increases in importance.

The senior veterinarian at the depot is known officially as "The Veterinarian," and has a command very much the size of a cavalry troop in the army in peace times. The Veterinarian is responsible for the veterinary service at the depot and must assign his officers and men to the greatest advantage. He is also the veterinary sanitary officer of the depot.

Usually one veterinary officer and a veterinary detail are ordered to ride the corrals on diagnostic work.

One officer is detailed to the surgical ward of the hospital and the others to the contagious and non-contagious wards and on duty in the remount shoeing school as instructor. It is a position

which requires ability, both from a veterinary and administrative standpoint, and much tact.

As a company commander, he is responsible for the drill and discipline of his detachment and for the proper feeding of his men and care of their barracks.

All animals are inspected on arrival and malleined as soon thereafter as is possible. This is again repeated prior to issue to commands.

He is responsible, under the commanding officer of the depot, for the reception of sick or injured animals from the division into the hospitals at the remount.

Veterinary Inspection—Purchasing Service.

The Veterinary Corps has one officer on duty as special laison officer to the remount division, Quartermaster Corps. His duties are largely supervisory in regard to the activities of veterinary officers on remount purchasing boards. Veterinary officers are assigned to this service in the various purchasing zones of the country. They examine all animals for soundness prior to purchase and mallein-test all animals which have been accepted, prior to purchase.

Transport Service.

A veterinary officer is attached to the staff of the commanding general at each port of embarkation. He is responsible for the inspection and sanitation of every animal transport leaving the port. He assigns transport veterinarians to each transport. The veterinary officer on the transport is responsible for the care of the animals during the outgoing trip and for the cleaning of the boat on the return trip.

Veterinary Supplies.

This important service is a part of the administrative branch of the Veterinary Corps and has to do with the purchase and issue of veterinary instruments, medicines and supplies for the veterinary hospitals.

With practically nothing on hand at the beginning of the war, this division has been organized and is now supplying combat units, hospitals at remounts and abroad, with a modern equipment of veterinary instruments and supplies adapted for army use and put in containers which will be serviceable and readily packed.

Officers' and men's wallets are provided for mounted use. Expandable veterinary unit chests, cheaply—yet serviceably—

constructed and easily packed, are issued to all veterinary units. This chest contains supplies for first-aid work. A veterinary officer's chest is issued to each officer on duty with mounted troops; this contains instruments and supplies. The mobile sections have four unit chests. The large veterinary base hospitals and hospitals on line of communication have seven large and completely equipped chests with a very complete equipment of instruments, medicines and supplies.

A great deal of ingenuity has been exercised in preparing and arranging these chests in order that they may serve as a complete equipment, yet be compact, easily packed, and stored for transportation purposes.

Veterinary Laboratory Service.

The principal veterinary laboratory of the army veterinary service is located in Philadelphia, Pa., from which point several veterinary officers who have been specially trained in army diagnostic methods have been ordered to each department laboratory in this country. Their work is largely the examination of blood for the complement fixation and agglutination test. Specimens of tissue, scrapings, etc., for mange mite, and other work of this type are sent to these laboratories.

CERTAIN ASPECTS OF THE PATHOLOGY OF SPAVIN.*

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A world of knowledge may be gained at necropsies by routine examination of the joints. It will be found that inflammations of the joints are more common in horses and cattle than is generally supposed. It will be found that these inflammations usually affect more than one joint in the same animal and that in cases where a diagnosis of lameness was made in a certain joint, other joints were equally, and in some cases more severely, involved than the one that was diagnosed antemortem as having been inflamed. Finally, it will be found that apparently healthy animals in numerous instances show joint lesions.

The lesions most frequently found are fibrous outgrowths on the synovial membrane and erosions on the articular surfaces. Both of these changes are of such common occurrence that they were considered as normal structures. Bürki explained that the erosions on the articular surfaces in cattle are a result of growth. He wrote that the bone grows faster than the cartilage, causing

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the center of the cartilage to become thinner and finally disappear. Numerous histologists consider the fibrous growths on the synovial membrane also as normal structures.

A systematic study of joint lesions has shown that the growths on the synovial membrane are due to an organization of a fibrinous exudate in the joint. They are at first composed of fibroblasts and richly supplied with young blood vessels. In later stages they are composed of fibrous connective tissue containing a few blood vessels and covered by mesothelium. Occasionally, during the organization of the fibrin, some of this granulation tissue is transformed into cartilaginous or bony tissue, thus accounting for the free bodies very often found in joints.

The erosions on the articular surfaces are the result of mild or severe irritants and are preceded by degeneration of the articular cartilage. They may begin on the articular surface and work down toward the bone or they may begin by a vascularization of the cartilage from the subchondral bone. In some cases both of these processes were seen simultaneously. The bases of these erosions may be reddened or yellowish, depending upon the age of the process. In some cases they may be whitish, due to a growth of connective tissue in these erosions.

Other changes encountered are a thickening of the capsular ligament and ankylosis of the two adjacent bones. The capsular ligament may be thickened by an œdematous connective tissue, dense connective tissue, connective tissue containing areas of cartilage and of bone, and in several cases the capsular ligament was found to be entirely ossified. The ankylosis may be so widespread as to include nearly the entire joint or it may be confined to small areas a few millimeters in diameter. The ankylosis may be by loose vascular connective tissue, by dense non-vascular connective tissue, by connective tissue containing areas of proliferating cartilage cells or areas of ossification. Finally, the two bones may be grown together by dense bone.

These changes occurring in the hock joint comprise what is known as spavin or bone spavin, but the interpretation of these changes is not so simple. An inflammation is a local reaction to an injury and spavin is a certain inflammation of the hock joint, hence in order to consider the changes found as spavin, they must be active. An active reaction to a mild irritant is indicated by the presence of fibroblasts or newly forming blood vessels. Active hyperæmia, hemorrhage, or exudation of fibrin, pus or serum indicate a local reaction to a more severe irritant. Cases where

signs of activity are lacking must be considered as quiescent, *i. e.*, where there was an inflammation at some previous time but which had subsided and now it is merely history. Another thing that must be remembered in this connection is that spavin is seldom fatal and that hyperæmia present in the subchondral bone may be due to the cause that produced the death of the animal and not a sign of activity.

The causes of spavin as previously given are hereditary predisposition, certain conformations of the animals such as heavy musculature, and mechanical irritants. Many cases have been encountered where exudation, erosion of the articular ends and hyperæmia and hemorrhage on the synovial membrane of the hock joints were present in newly born foals. In these cases pressure and stretching of ligaments as the cause may certainly be excluded. Besides, these changes are usually due to bacterial irritation. In numerous instances spavin was traced to umbilical infection. Umbilical infection is rarely found in dog and cat, and joint lesions, unless caused by fracture or other positively identified mechanical means, are just as rarely found in these animals. The reason for this may be that these animals are more immune to ordinary infection.

Recently the joints were examined in a number of calves that were used in obstetrical exercises. These calves appeared healthy in every respect, yet lesions were found in the hock joints, while all the other organs were apparently normal. The lesions found in these cases were hyperæmia of the synovial membrane, a reddened synovia, reddened erosions on the articular ends covered by a reddened fibrinous exudate. Microörganisms were found in some of these, while culture media inoculated from others remained sterile. This fact makes it seem possible that in many instances, unrecognizable umbilical infection exists where, due either to the small number of the invading organisms or to their lesser virulence, the irritation is so mild that the spavin is not recognized until the animal reaches the age of a year or two.

The history in many cases of lameness is not very reliable. I can recall several instances where the owner claimed that the animal went lame after a certain slip on the ice. The lameness gradually grew worse, finally posterior paralysis set in and the destruction of the animal followed. On autopsy, a tumor was found pressing on the trunk of nerves supplying these parts. In this case, fortunately, the cause was seen with the unaided eye. What about those that cannot be seen? A slip on the ice might

produce a sprain, an injury to the ligaments and subsquently a chronic periostitis. Such cases have been encountered and while in those the joints were not affected, it is possible that such an inflammation may spread to the joint and produce a true spavin.

Aside from umbilical infection, spavin may be a sequel to diseases of other organs. It is well known that the sequelæ of acute pneumonia, pericarditis, pleuritis, peritonitis, metritis, an ulcerated tooth or other suppurating foci, are often joint lesions. Consequently, spavin may follow any of these conditions. In this case the cause would be metastasis of microörganisms just as true as in the case of umbilical infection. This view is further strengthened by experimental evidence. Lesions similar to those found in spavin were produced in dogs and in pigs by inoculation of microörganisms. These experimental data, the early changes being those of infection, and the actual finding of microörganisms in many instances lead to the belief that spavin is very often caused by infection.

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THE CHLORAMINE ANTISEPTICS AND DISINFECTANTS.*

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This great world war that is now being fought is only one phase of the eternal struggle between living organisms for existence, and it is a struggle that will continue as long as life exists. After the roar of cannon has died away, the poison gas evaporated, and the submarines are rusting on the ocean's bed, the struggle for existence will continue. The present war, as we see

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it, appears to be a struggle between organisms of the same animal species, man fighting and killing his fellow man, each bringing to his aid the most powerful and deadly weapons that his inventive genius can devise. There is, however, another struggle just as desperate being fought out in the hospitals and dressing stations, the fight to preserve human life against the attacks of organisms so small that the unaided eye cannot see them and yet a foe that has caused more devastation to the human race than wars and accidents combined. In previous wars it has not been the human foe that has caused the greatest loss of life, but, rather, those insidious but effective organisms that we call pathogenic. The surgeons in the dressing stations and hospitals are the officers who are leading the defensive forces for the preservation of human life against the attacking hordes of disease and death-producing microörganisms. It is well established that if it were not for microörganisms, wounds would not be serious or fatal unless some vital organ is mechanically crippled. Every surgeon knows that the seriousness of a wound does not depend upon its extent alone. Minute and often insignificant wounds, when infected by a virulent organism, are always serious.

It is not to be assumed that the struggle between man and microörganisms is confined to war conditions. This is only one phase of the eternal struggle for existence, a warfare that will not be settled by diplomatic negotiations or a treaty of peace but that will continue as long as life exists. The fittest will survive, and if we are the fortunate victors, we must bring to our assistance the most efficient aids that the mind of man can devise. We must consider antiseptics and disinfectants as weapons, that man because of his superior power has produced and made available for the destruction of certain lower forms of life and particularly bacteria that prey upon mankind and also upon the higher animals that we as veterinarians must protect and conserve for the use of, and therefore for the existence of, the human race.

In the introduction to *A Handbook of Antiseptics*, Dakin and Dunham say: "Strictly speaking, an antiseptic is a substance which inhibits the reproduction of microörganisms, but it need not manifest great 'germicidal' or killing action on such organisms * * * Most substances used in the prevention of wound sepsis possess both germicidal and antiseptic properties, though perhaps they are most commonly called antiseptics.

"The term "disinfectant' should clearly connote a substance which destroys infecting agents and hence is identical with a

germicide, but the word has come to be used in a popular sense, irrespective of complete sterilization, to indicate some of the phenomena commonly associated with efficient disinfection, such as a deodorant effect. The use of the words 'disinfectant' and 'disinfection' in any other than that first indicated is to be deprecated."

At the outbreak of the present war a tremendous problem of gross infection of war wounds confronted the army surgeons. The soil of Flanders had been fertilized for centuries with human and animal excrement and under modern war conditions wounds were infected to a degree never before experienced.

Colonel Sir Berkeley Moynihan of the British Army Medical Service says: "Whether a surgeon had practiced 'aseptic' or 'antiseptic' surgery * * * he had rarely seen a profoundly septic wound. Suddenly he was confronted with a long succession of cases in which a raging and often rancid suppuration was present, and he found that all the old remedies upon which he had so comfortably and confidently relied were hopelessly inadequate and futile. A challenge was, so to say, thrown to the medical profession and I think we may now with due modesty claim it has been splendidly and triumphantly met."

And again:

"Among these (methods of antiseptic treatment) pride of place will be cheerfully and gratefully conceded to the Carrel-Dakin procedure."

The challenge to the surgeon was promptly accepted by some of the ablest scientists in this and other countries, including such men as Dr. Flexner, Sir Almroth Wright, Drs. Carrel, Dakin, Daufrense, DeHelly, Dumas, Prof. Pozzi, and others. Carrel and Dakin experimented with more than 200 of the best known antiseptics before they perfected the hypochlorites solution.

It is not claimed that the use of chlorine-carrying compounds as antiseptics is a new discovery, but the chlorine compounds have been perfected in form and some new chlorine compounds have been discovered, so that altogether it may be stated that these embrace the greatest medical discoveries of the war so far announced.

The ideal antiseptic is a substance that inhibits the growth of invading microörganisms, but does not irritate or injure the cells of the animal body. It should also be a substance that is of practical application. While the ideal has not been attained, it has been approximated more closely by the chlorine-carrying anti-

septics than any other, as demonstrated by their extensive use and the splendid results obtained in the war hospitals of France, Great Britain and America. Practically all of the well-known antiseptics used previously are toxic and their antiseptic action is due to their direct toxic effect upon the invading microörganisms. The chlorine-carrying antiseptics are synthetic compounds in which the chlorine is loosely combined with hydrogen in a form called "active chlorine." When these compounds called "chloramines" are brought in contact with proteins, a nitrogen atom in the protein is replaced by a chlorine atom, and according to Dakin and Dunham, "This chlorination of bacterial protein seems to be incompatible with the life of the organism."

The chlorine-carrying antiseptics are divided as follows:

Hypochlorous acid and the hypochlorites. These are unstable, aqueous solutions and are used for irrigating wounds. They must be freshly made and used in a strength of from .45% to .50% of 1%. They are somewhat irritating. These solutions dissolve necrotic tissue to an unusual degree and also blood clots. Secondary hemorrhage must, therefore, be guarded against. These solutions are efficient and economical, particularly for hospital use. Ensol, one well-known form, is a combination of hypochlorites and boric acid in solution. Neutral hypochlorite solution (Dakin's solution) is a preparation of sodium hypochlorite neutralized with sodium carbonate.

To overcome some of the disadvantages of the hypochlorous and hypochlorite solutions, Dakin and others devised a synthetic chlorine-carrying substance, sodium-toluene-sulphon-chloramide, introduced abroad as Chloramine-T and in America as Chlorazene. "It is a crystaline, odorless substance containing 12.6% of chlorine. It is readily soluble in water and the solutions that have a bitter taste are stable, neither moderate exposure to heat or light causing decomposition. In equimolecular solutions, its germicidal activity is about four times that of sodium hypochlorite." —*Handbook of Antiseptics.*

Chlorazene can be used in aqueous solutions of ¼% to 2%, according to indications. It is less irritating and more stable than the hypochlorite solutions. A solution of 1:500,000 kills staphylococci in water as compared with a phenol solution of 1:250, while staphylococci in serum are destroyed by a 1:1.500 solution of Chlorazene as compared with a 1-50 solution of phenol.

It must not be inferred that the excellent results obtained by the use of the water soluble chlorine antiseptics are due entirely

to the antiseptic itself. The Carrel method of using by intermittent installation every two hours is a very important factor, and Dr. Sherman says that "Devers dictum, 'He who drains well, does surgery well,' must be changed to 'He that does Carrel well, does surgery well'."

The important feature of the treatment is a frequent flooding or irrigation of the wound, either with a Carrel apparatus or by saturating gauze. This is essential to success.

Chlorazene or Chloramine-T is also used in a sodium stearate base as a surgical paste, where the wound is only lightly infected.

Another chlorine-carrying antiseptic that is giving most excellent results in the treatment of war wounds is toluene-para-sulphondichloramine, generally known as Dichloramine-T. This was first prepared by Chattaway and occurs in yellowish white crystals, and has a faint chlorous odor. It is practically insoluble in water but is readily soluble in an oil made by chlorinating paraffin wax. This oil is called Chlorcosane and is superior to chlorinated oil of eucalyptol, as the Chlorcosane is non-irritating.

The advantages of the Dichloramine-T–Chlorcosane solution is that the chlorine is slowly liberated and maintains a continuous antiseptic action for from eighteen to twenty-four hours, thus avoiding the frequent attention necessary with the aqueous chlorine solutions. Dichloramine-T in Chlorcosane can also be used in a much stronger solution of from 5% to 8%. Only a small quantity of this antiseptic is necessary, and it can be applied with an atomizer syringe or sterile swabs. If protective dressings are used, they should be light to avoid absorption of the antiseptic by capillarity. Dichloramine-T is fairly stable in Chlorcosane if kept from light and heat. It is best to make up the necessary quantity of the solution every four days.

It is not necessary to call attention to the splendid results obtained by the use of these chloramine antiseptics in the allied hospitals during the present great struggle. They are also giving correspondingly good results in veterinary practice where properly used.

It has been our observation that in badly infected wounds, or wounds discharging considerable pus, the aqueous solutions used freely and frequently give the better results. In wounds where the oil solution can be applied directly to the infected surface, or where it is desired to close a wound immediately, the Dichloramine-T in Chlorcosane is preferable. It seems probable that these

chloramine antiseptics will replace most of the antiseptics for general use.

One of the great problems in connection with war has been the sterilization of drinking water necessary for troops under widely varying conditions. For this purpose, Dakin and Dunham have devised a chloramine compound disinfectant, para-sulphon-dichloramine-benzoic acid. To this substance they have given the name of Halazone. From extensive tests they have shown that "a concentration of 1 to 300000 is sufficient to sterilize an ordinarily heavily contaminated water in thirty minutes." Halazone is non-toxic and the indications are that this new substance will prove of great value not only in the army but among civilians.

As we view these new chloramine antiseptics and disinfectants, they will continue to be of inestimable value in saving and protecting human and animal life against the armies of devastating microörganisms that we have, like the poor, always with us.

EXPERIMENTS IN CAPONISING FOWLS.*

(With Notes on Regeneration of the Testes and Hormonic Influence.)

By D. F. LAURIE, Government Poultry Expert, South Australia.

During recent years, consequent upon the ever-widening field of the work of the genetist, much attention has been given to the varying results of the operation of orchectomy, commonly called caponising in referring to poultry. Bond *(Journal of Genetics,* September, 1913) published an account of "Some points of genetic interest in regeneration of the testes after experimental orchectomy in birds." This revived interest in some experiments made by the writer some 30 years ago before much was known of the subject, and before the Hormone theory was thought of. In subsequent dissection of cockerels, from which I had carefully, as I thought at the time, removed the testes, regeneration was found to have taken place. Subsequent experiments, confirmed by others at various times, showed that what is known as intra-capsular removal is responsible for regeneration. It was at one time thought sufficient to destroy the testis by breaking it up (extirpation) and removing as much of the contents as possible. Subsequent experiment has shown that in such operations the

* Journal of Agriculture of South Australia.

whole part of the capsule may remain *in situ*, and will regenerate the secreting tissue of the testes and *tubuli seminiferi*.

During the year I decided to conduct afresh some experiments in this direction, and for the purpose selected cockerels of each of the following breeds:—White Leghorn, Rhode Island Red, and Barred Plymouth Rocks. Each bird was weighed, legbanded, and operated upon, and in due course made satisfactory growth. In certain cases one testis was left intact, in other cases both testes were completely removed, and again in some cases the removal was intracapsular. It was soon seen that those birds in which complete removal of both testes had taken place, were exhibiting the characters of normal capons. In all the others the comb and other secondary sex characters were practically normal, as in males of those breeds which had not undergone the operation. Further work is being carried on, but for the purpose of the present note sufficient has been done. It is well known that castration has the effect of inhibiting or greatly modifying the secondary sex characters. In the case of capons there is a noticeable lengthening of the limbs, and the feathering is longer and more abundant. The head has a "sexless" look, as it is neither that of a male nor that of a female..

White Leghorns.

Three birds were killed and carefully dissected. In life they appeared rather heavier-bodied and with more abundant plumage than usual to the poultry station type. These slight modifications were alone noticeable. The head, comb, &c., were those of normal cockerels of the age, fully developed. The results found were as follows:—No. C.50.—Right testis was not removed and was fully developed. Left testis has been completely removed, and exhibited no sign of regeneration. No. C.53.—During the operation of orchectomy both testes were broken; the right testis was removed in several sections, and the left testis appeared to be completely removed in two pieces. Examination showed that the right testis had undergone regeneration, and was full-sized and lobate. The left testis was the size of a small pea, globular, and had evidently regenerated from a minute particle of testicular substance (cells, &c.). This operation would be intracapsular. No. C.59.—The history of this bird was similar to that of C.53, and it was found that the right testis was fully regenerated and characteristically lobate, and that the left testis had developed to about half normal size.

Rhode Island Reds.

These three birds had fully developed secondary sex characters, and appeared to be normal specimens. No. C.38.—The right testis had regenerated, but was lobate in a marked degree, and was further attached by numerous adhesions to surrounding tissues. This was the only case of many dissected in which these adhesions were so much in evidence. The left testis was absent; it had been completely removed. No. C.40.—The right testis had regenerated and was about one-quarter normal size; lobation was marked. The left testis was absent. No. C.54.—The right testis had regenerated to about normal size and lobate, and was remarkable for a lobular bud about 1cm. in diameter.

Barred Plymouth Rocks.

No. C.41.—Right testis regenerated, lobate condition not so marked. Left testis regenerated in trilobate form almost as if three spherical growths had arisen from three distinct foci. No. C.30.—Right testis regenerated in two lobes, and on second lobe a bud-like growth 2mm. in diameter. No. C.53.—Both testes were showing early stages of regeneration and growths 9mm. to 10mm. long by 6mm. in girth were seen.

All the birds had fully-developed combs, wattles, &c., and the plumage was normal. C.53 is of interest as indicating that even when there is only relatively minute growth in regeneration of testes the secondary sex characters are well developed. Evidently the internal secretion in minute quantities functions in this respect.

In all the foregoing cases the birds exhibited the usual sex habits, indicating no apparent absence of sex vigor and habit. In fact, they were becoming a nuisance owing to their depraved habits. The fact that in each case the testes were both (with the exception of No. C.50) either completely removed intracapsularly, and that regeneration had taken place shows the marked difference between birds and mammals. The effect due to internal secretion does not seem affected where regeneration has taken place, nor where one testis has been completely removed.

Organs of Internal Secretion and Hormonic Influence.

The testes of the male and the ovaries of the female are recognised as organs of internal secretion. They elaborate substances akin to enzymes, hormones, which produce profound effects upon growth, general development, characters, &c., and in some cases interaction takes place. The removal or the loss or modification

by disease or design may have far-reaching effects upon the organism or primarily upon another organ of internal secretion.

In the case of the testes, total extirpation, including the removal of the capsule, removes from the bird the organs which elaborate the hormones which influence the development of the secondary sex characters of the male. In the case of ovariotomy or the extirpation of the ovary of the hen a more complex case is in point. While like results are recorded as regards similar operations on mammals, &c., we are now concerned with the hen, which has but one functioning ovary, whereas the mammal has two. Extirpation of the ovary in the hen has been effected by the application of the cautery, and in some cases there has followed assumption of male characters, and subsequent dissection has shown the development of a gonad, or testis. The ovary has its origin in the Graafian follicles, and it is evident that these regenerate, normally, in the domestic fowl at any rate. It is thought that this may be due to the development of the laying capacity of the domestic hen. There is reason for believing that selection has played a part in regard to the sperm-forming capacity of the regenerated male sex gland in the fowl, *i. e.*, that the cell divisions of the mother sperm cells left after the intracapsular operation provide new spermatozoa during regeneration. Partial removal of the ovary may result in degeneration. Damage or disease may destroy the ovary and so remove from the body the source of supply of the hormone inhibiting the appearance of male secondary sex characters—of plumage, of comb, and the habit of crowing. This gives warrant to the Mendelian belief that femaleness is a supernumerary character to maleness—take that character from the female and you have the male. The character in the point in question is influenced by an inhibiting hormone.

The opinion held by some people that the right or left testis of the male influences the sex of the offspring has had ample practical proof of its fallacious nature. Likewise as regards the ovary. Hens have but one functioning ovary—the other is only found in the embyro—and the hen produces both sexes. Doncaster and Marshall proved the latter point in their experiments with rats.

Again, the layman knows nothing of the unilateral development and so-called hermaphrodism, complex considerations not within the ambit of the present note. There are other organs of internal secretion—the ductless glands, which are influenced by

orchectomy. They are the thyroid, the thymus, and the pituitary and pineal glands.

The *thyroid* gland is in the neck and is found in all craniate vertebrates. It arises as a ventral out-growth of the pharynx, and contains epithelium-lined vesicles filled with a colloid substance. The secretion of the thyroid gland is of great importance to general metabolism and growth. Disease or disturbance of its function leads to cretinism and other abnormal conditions. The *thymus* is in the lower part of the throat and in adults it generally disappears or becomes rudimentary normally. It is formed in the embryo from the epithelium of one or more of the gill clefts. The action of this gland is important to general metabolism and nutrition. A deficiency of gland substance may lead to anæmia, hæmophilia, chlorosis, and other abnormal conditions. In poultry it no doubt plays an important role in reference to uric acid and kidney secretions.

The *pituitary* is a small, oval, reddish-grey body attached to the infundibulum of the brain. It affects the metabolism, especially of the connective tissue and bones. Milk-secretion is controlled by a hormone from the pituitary body (Schafer). The *pineal* gland is a small, reddish-grey, vascular body situated behind the third ventricle of the brain. The dissection of the head of *Sphenodon punctatus* led to the knowledge of the origin of this body in vertebrates. Kidd says of this gland:— "There seems to be some antagonism between the pineal and pituitary bodies, as removal of the testicles produces atrophy of the former and hypertrophy of the latter. The pineal body appears to have two distinct functions, the first being a restraining influence on sexual development, which ceases at pubity; the other an unknown influence on general metabolism which continues through life."

The *suprarenal* gland (the capsule of the kidney) produces the well-known adrenalin, epinephrin, &c., used for many medical purposes. These are specially important.

Sir E. A. Schafer says:— "The internally secreting glands (thyroid, parathyroid, suprarenal, pituitary) have no other function so far as is known than of producing chemical substances of the nature of hormones, influencing other organs to which they are conveyed by the blood."

Hormones are thought to have the power to correlate and coordinate the various body functions (pregnancy, mammary secretions, &c.), but they also destroy toxins and they control one another; this is the hormone balance. In studying the physiology

and development of the chick and of the young mammal one finds the influence of internal secretions at every step.

The administration of various extracts and principles of the organs of internal secretion (organotherapy) in the treatment of various diseases is a strong feature of modern practice. The physiological and other effects constitute some of the most interesting problems of the modern experimentalist.

ADVISES CLOSE WATCH AGAINST FOOT AND MOUTH DISEASE.

Public officials, veterinarians, and stock owners should be on guard to report immediately any cases of foot and mouth disease that may appear in this country, according to a statement by Dr. J. R. Mohler, Chief of the Bureau of Animal Industry, U. S. Department of Agriculture. Dr. Mohler said:

"Recent cable news announces an outbreak of foot and mouth disease in England which brings to mind the serious outbreaks of that disease which have been experienced in the United States.

"Foot and mouth disease has appeared in England from time to time, as it has done in the United States. In both countries the past outbreaks have been promptly controlled and eradicated and no cases have occurred in the United States since 1916. Nevertheless, the disease makes its appearance at irregular intervals. In this country we may expect its return at any time, although every precaution is being taken by the Federal authorities to prevent the introduction of the disease, especially from the present outbreak in England. So long as communication is maintained with other countries the danger of the reintroduction of the disease must be acknowledged.

"It is of the greatest importance that a sharp watch be maintained by all officials, by practicing veterinarians, and by stock owners in order that the very first cases may be discovered and the spread of the disease prevented. It would be a great misfortune to the United States if foot and mouth disease should occur under present conditions or become firmly established in the country, as has been the case in many of the stock-raising nations of continental Europe. Early discovery of the disease, followed by prompt elimination of infected centers, is the only way to prevent the United States from becoming permanently infected."

CLINICAL AND CASE REPORTS.

NECROBACILLOSIS IN HORSES AND MULES.

W. F. Nolechek, First Lieutenant, V. C., U. S. A.,
Camp Hancock, Augusta, Ga.

The paucity of literature on Necrobacillosis in the horse and mule prompts me, after several months of close observation of the various forms of the disease, and the treatment, and results obtained from same, to give to the veterinary profession some idea of the experience of army veterinarians in combatting this disease. At the beginning of the outbreak of this trouble veterinarians were handicapped by a lack of knowledge as to the proper

Necrophorus infection in region of pastern and coronet terminating in necrosis of lateral cartilage.

methods of handling the situation. Great losses of animals occurred at the various army camps throughout the country. At one camp alone 80% of deaths during the two months of July and August were due to the *Bacillus necrophorus*. This should be sufficient evidence that many bad results were obtained which were of no benefit to the veterinary profession.

The first case of Necrophorus at this camp made its appearance about May 15. It was a typical case of the most familiar form, Gangrenous Dermatitis, which affected the region of the

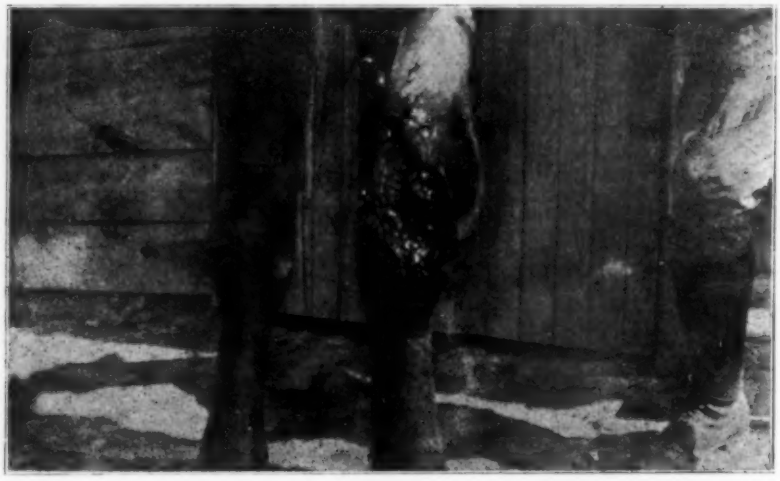
fetlock joint, and was easily diagnosed. At the time the first cases were noticed there were more animals at the depot than could be conveniently accommodated. The resulting accumulation of manure, aided by several weeks of warm, wet weather, formed a natural incubator for *B. necrophorus*. During a period of two months 20% of the animals at this depot became affected with some form of this disease. Not only the animals in the corrals were attacked, but mules from the pack train and horses used in guard duty, which were kept under most ideal conditions, were affected. This fact alone should be sufficient evidence that the *B. necrophorus* is a normal inhabitant of the soil.

Upon looking into the morphology of the *B. necrophorus* it is

Necrophorus infection of hoof starting as thrush, the infection penetrating to the deep flexor tendon and later to the outer lateral cartilage. Both the tendon and cartilage were removed, and the animal is recovering.

seen that it is essentially a pleomorphic organism, varying according to nutrition, soil, and age of culture, from coccoid forms to filaments over 100 microns in length and from 0.75 microns to 1.5 microns in width. The longer forms appear as slender, undulated, beaded filaments. Generally in the tissues these threads are matted together into an intricate network, like a mass of hair or even more compact felt. The same appearance may be found in colonies. Frequently the filamentous forms present one wide or clubbed extremity, with the other tapering. The older cultures, either animal tissues or artificial media, exhibit almost exclusively bacillary cocci.

Cultivation of *B. necrophorus* is not easy. It is an absolute anærobe. Agar agar stab culture seems to be most satisfactory. Near the close of the second day a few grayish-white colonies make their appearance at the bottom of the needle tract. These gradually increase from below upward to within 1-1.5 cm of the top of stab canal. Then is formed a thin, narrow, yellowish-opaque or grayish-white line of growth, surrounded by a thin, white cloud. On slight magnification this is seen to be composed of minute waving threads. In the study of fresh tissue smears taken from specimens sent to the laboratory from this camp invariably the bacillus was found by making a film on a slide with



Necrophorus infection in region of knee. Necrotic tissue has been removed.

a teased particle of the suspected tissue and staining with ordinary analine dyes. As the organism is anærobic, it was easily found in the deep structures of specimens thus obtained. At this laboratory the *B. necrophorus* was isolated in pure culture and the same organisms recovered from inoculated rabbits.

General Pathology.

This may be broadly stated as a coagulation necrosis, with subsequent caseation characterized by a most malignant tendency to involve the whole organism. This is manifested in three ways: by a progressive advance into the surrounding tissue, by an invasion of distant parts of the body by embolic metastasis, and finally by general metoxication. Dead tissue acts upon the surrounding healthy structures as a foreign body, causing both

mechanical and chemical irritation; in consequence of which an inflammatory reaction is uniformly established in the adjacent healthy tissue. At the periphery of the necrotic part there must be observed an inflammatory zone, marked by greater or less inflammatory hyperæmia. From the action of the fluid exudates penetrating the dead tissue, which liquefy small necrossed areas, there is often left a space or defect which is later filled by poliferation of the surrounding tissues, or by inflammatory scar formations. Large necrotic areas, or such as apparently cannot be softened, resist absorption. These may be circumscribed by the inflammation, encapsulated, completely separated from the rest of the body (circumscribed necrosis).

Mode of Infection.

It may be stated with positiveness that *B. necrophorus* does not enter unimpaired tissue. Most, if not all, of its infections with which we are acquainted require for their inception a break in the continuity of the skin, for the skin necrosis; tread wounds, punctured wounds, suppurating corns, etc., for the hoof necrosis.

Symptoms.

The affection takes a form of what is apparently an ordinary small wound. In spite of the ordinary antiseptics used, within twenty-four to forty-eight hours we notice a vast change. The infection is now of a malignant character, shows a tendency to spread and involve the deeper tissues. Sometimes the areas involved are from five to six inches in diameter. The necrotic lesions are characterized by the presence of a grayish-yellow, greasy, foul-smelling secretion. If proper treatment is not applied and the infection spreads to the deep tissues, involving joints, etc., we notice the general symptoms of inappetence, languor, weakness, rapid and feeble pulse, indicating a general intoxication. Emaciation is rapid, although not always fatal. This form usually renders the animal unserviceable.

Necrotic scratches, or dermatitis-gangrenosa, in the region of the heel commences as a mere erythema from exposure to the original causal influences. The affection takes on the eczematous character. In the abraded surface, coated with a greasy exudate by mixing with dirt, thus making an air-tight packing, *B. necrophorus* finds an attractive nidus, where it begins its necrotic process, which is always marked by a progressive character. In the process of this destructive inflammation, not only the skin is affected, but the subcutaneous tissue is involved. It quite often

penetrates into the tendon sheath of the flexor apparatus, causing its necrosis, and also penetrates the fetlock or pastern articulations. The necrosis may travel upward as far as the back, involving the subcutaneous structures in that region; or it may burrow downward into the hoof structure, attacking not only the soft parts of the hoof, but also the lateral cartilages and coffin bone.

Necrotic Quittor.

In cartilaginous quittor we find the typical instance of necrobacillosis of cartilage. This may arise as a primary necrosis due to some direct injury, such as tread or heavy blow, which may puncture or crush the cartilage, the *B. necrophorus* gaining entrance at time of injury, or later, from contaminated particles of soil which gain entrance. This condition is first manifested by an inflammation of the tissues, which results in a hot, painful swelling of the coronet over the affected quarter, and marked lameness. Later we notice one or more openings in the swelling, which discharges a pale yellow fetid fluid, and which connects with the necrosing cartilage by means of fistulous tracts. The wall of the hoof below the diseased quarter, stimulated to overproduction by the inflammation present, becomes thick and irregular. When treatment is not applied the disease usually spreads to the ligaments, joints, or even the bones, sometimes involving the sensitive laminæ, producing a general septic pododermatitis.

Necrosis of flexor perforans tendon, due to picked up nail, with *B. necrophorus* infection. Symptoms are synonymous with those of ordinary nail prick with the exception of a more rapid course. Very marked general symptoms are noticed, along with the usual lameness. If left to take the normal course, the infection penetrates upward into the flexor apparatus, which usually produces death. Severe forms of thrush with *B. necrophorus* infection produce very similar symptoms to those of nail prick, with the exception that in the early stages lameness is not well marked, but gradually increases. The entire horny frog may separate from the sensitive frog, having a very foul-smelling secretion. Dirt becomes mixed with this secretion, forming a filthy mass, an ideal place for *Necrophorus bacillosis*. The necrosis spreads into the sensitive frog, later into the deeper structures, involving the deep flexor tendon, pedal bone, and sometimes the pedal articulation.

Treatment.

B. necrophorus being an anærobe, each form must be treated with one object in view: expose the organism to the air. This is easily accomplished with the knife. In gangrenous dermatitis, remove all necrotic tissue and a part of the healthy structure, cutting away ragged edges of skin around necrosed area. After the necrotic tissue is removed, apply bichloride pack 1-500, leave pack 24 hours, remove, and apply the following: camphora pulv., liq. cresolis compositus and phenol, of each 3 ounces; tincture of iodine, q. s., 1 quart. Apply with swab twice daily. If part becomes filthy, wash before applying. Bandaging at this time is contraindicated.

The most satisfactory treatment for necrosis of lateral cartilages and perforans tendon is surgical, complete resection of lateral cartilage or tendon followed with the usual antiseptic dressing gives the best results. Caustics have been tried in early stages, but apparently it is impossible to penetrate to the seat of infection; consequently, the desired results are not obtained.

INTESTINAL COCCIDIOSIS.

W. J. Lentz, University of Pennsylvania, School of Veterinary Medicine.

Having read in the September issue of the Journal of the A. V. M. A. the very interesting article by Dr. C. H. Schultz ("Some Mysterious Losses Among Cattle in the Pacific Northwest"), I herewith call attention to a case described by me in the report of the Committee on Medicine and Surgery submitted at the meeting of the Pennsylvania State Veterinary Medical Association, held in Harrisburg in January, 1918.

Was asked to consult with a veterinarian on an interesting condition in a herd of grade Holsteins. Owner had lost four or five heifers over a period of about two weeks, ranging in age from six months to eighteen months. All presented similar symptoms. There was first noticed a serous, fetid, black diarrhœa. Fever was rarely in evidence at any time. The diarrhœa after a few days changed to mucous, with the passage of blood clots with the mucous and feces from time to time. Straining was very marked. Appetite somewhat impaired but, nevertheless, partook of some food, but finally, in about six to eight days became very dull, refused food, emaciated rapidly, rectum became relaxed, tempera-

ture subnormal, pulse hardly perceptible, and these symptoms of collapse were soon followed by death. On arrival at the farm found six to eight calves and one adult cow presenting some of the symptoms mentioned, and inasmuch as one was about to die, it was destroyed and posted. Lesions were confined to the large intestine. No apparent pathological change in any other organ. The mucous membrane of the large intestine, which was almost empty, was red-brown in color, soft and spongy, and everywhere coated with bloody mucous. The back of the knife, after the intestine was slit open, was passed over the mucous surface and the bloody mucous scraped off, when it was noticed that large superficial ulcers, white in color, and about the size of one's palm, were present throughout the whole extent of the large intestine, from the cæcum to the anus. Some of the mucous patches were scraped off and collected in a bottle, also some of the blood and feces. On microscopic examination, Coccidia were detected. A diagnosis of "Intestinal Coccidiosis," or "Red Dysentery," was therefore made. Treatment suggested: Pearson's creolin well diluted with milk or water, also large doses of camphorated tincture of opium, and rectal injections, using garden hose and funnel, of a two per cent creolin solution, alternating night and morning with a one per cent. alum solution. A week later received word that all were doing nicely and no deaths.

Announcement has just come to hand of the marriage of Miss Joanna Marie Reagan to Dr. Thomas Emmet Smith, the ceremony having taken place at Saint Bridget's Church, Jersey City, New Jersey. The Journal takes this opportunity of wishing for the young couple all the happiness and prosperity they could desire throughout their wedded lives.

ABSTRACTS FROM RECENT LITERATURE.

ANAEROBES IN SOIL-INFECTED WOUNDS.

In the course of work for Sid David Bruce's Tetanus Committee, at the Bact. Lab., Dartford War Hospital, Mr. Henry Goodale, O.i/c., was able to collect evidence respecting anærobes from a large number of cases. From these he states the following conclusions:

1. That anærobes or their spores persist in the deep tissues around bone and in scars after wounds have healed, or when they are covered with healthy granulations that give nothing but staphylococci on culture.

2. The anærobes can find their way from an infected wound of the extremities to the serous cavities of the brain and pleura, and are found in these localities in connection with meningitis and pleurisy.

3. The anærobes are found in metastatic abscesses of the lung resembling in type the organisms found in the soil-infected wound of the patient, and the symptoms of these patients are those of general septicæmia.

I have not entered into any speculations as to the precise way by which anærobes find their way from one part of the body to another; it appears certain that they produce a substance that paralyzes the polymorphonuclear leucocytes and inhibits phagocytosis, this being one of the factors which accounts for the rapid progress of acute bacillary gangrene.—*The Lancet* (London).

SODIUM SULPHATE EXSICCAT.

Some of the veterinary profession are anxious for a substitute for linseed oil. This winter I have used, in many cases of colic, sod. sulph. exsic. with very good results and far more satisfaction than linseed oil: 6 ozs. (exsic.) dissolved in a quart bottle of warm water. This may not purge, but it renders the bowel contents easy to pass along. It agrees well with horses in these cases, is not nauseating, nor leaves the mouth in a dirty condition; in fact, it cleans it, and takes effect quickly. Two or three cases I

had where the pulse got up rapidly, and breathing was affected, as if hardened ingesta had accumulated about the flexures of the colon, with some irritation. The sod. sulph. moved this on nicely, and next day the animal was greatly improved or wholly better.

I always carry one or two packets with me, and consider it so very much superior to linseed oil in all respects that I would not now use the oil at all. One never sees that sickly, nauseating, paralyzing effect in bowel cases which one sees after administering oil. In every respect I like it better; and another merit it has which I, as a true Scotsman, must not omit to mention—that of cheapness.

In all the cases one dose answered the purpose, but another dose could be given next day. Of course, unlike whiskey, don't repeat in an hour; wait till next day.—W. Lothian, M.R.C.V.S., in *Veterinary Journal*, London.

A CASE OF HYDRARGIC ALOPECIA IN A HORSE.

C. Lerena records this case in the *Revue de la Société de Médecine Vétérinaire de Buenos Aires* for 1917. A black horse, in good condition and with no history of disease, presented a hyperplasia of the left hock, probably due to a traumatism. Lerena applied a friction of biniodide of mercury ointment, which was repeated seven days later. At the end of some time the horse lost his coat, remaining completely depilated. No symptoms of hydrargism were presented; and an examination of the urine for mercury gave a negative result. The latter fact is explained by the small quantity of mercury which could have been absorbed, and by the time which had elapsed since its application.

It is difficult to understand how the mercury could have caused the depilation, in view of the minute quantity of it absorbed by so small a surface. Lerena thinks that perhaps an anaphylactic "shock" was produced in the patient after the second application of the mercury.

Lerena believes that the diagnosis of hydrargic alopecia was confirmed by the fact that the horse grew a coat of hair without any treatment, and also because it was possible, by the examination of the skin and by the circumstance that the animal had been cohabiting with others, to absolutely exclude the possibility that the case might be one of ringworm.

Lerena also states that, when a student, he treated a young chestnut horse affected with arthritis with repeated frictions of strong mercurial ointment on the carpal and tarsal joints, and in this case also falling off of the hair took place. From these facts, he deduces the following conclusions: There are subjects in which, from an idiosyncrasy, a single mercurial friction suffices to produce Hydrargic alopecia.

A veterinary surgeon, in a case of equine alopecia, should regard as an important point in diagnosis an inquiry as to whether the horse has previously undergone a mercurial treatment.

EPILEPSY CAUSED BY PARASITIC CYSTS IN THE BRAIN OF A DOG.

Subject.—Samoyede dog, two years old.

History.—The animal had suffered periodically from epileptic fits, which made the owner suspect either "rabies or poison," as it had been dosed several times for worms, and had been declared by a graduate free from them. The dog was in the habit of carrying stones in its mouth, which the owner said he could not break it of unless it always wore a muzzle. The dog had recovered from distemper twelve months previously and had been attended by a V. S.

Symptoms.—I observed the animal moved in a happy-go-lucky, clumsy sort of fashion, and showed symptoms of "hemiplegia" on the right side. It had a fit in my surgery, and the usual paroxysms were manifest, accompanied by foaming at the mouth, etc.

Prognosis.—Unfavorable.

Diagnosis.—Perhaps epilepsy, due to reflex irritation caused by foreign body in the stomach, or worms or "cysts in the brain."

Treatment.—Gave hypo. inj. apomorphine as an emetic, which acted quickly, and a mass of debris, composed of bones and matted hair, was vomited. Gave internally bromide compound (elixir) (Parke, Davis & Co.) pot. bromid., chloral hydras. and ext. cannabis indica and ext. hyoscyamus, as a sedative and suitable diet of a liquid nature, which relieved the animal temporarily. Put the dog later on a diet of raw meat minced and tripe, and administered a tonic of hydrated iron 1 gr., and arsenic 1-30th gr. in food; sent little antileptic pills, tinc. valerianate 1 gr.; zinc. bromide ¼ gr., arsenic bromide ¼ gr., to be given periodically as a preventive of fits.

Remarks.—Dog discharged from infirmary, brought back as a result of a street accident (run over by motor, and severely injured), paralyzed. Advised destroyal, to which the owner consented. I made a postmortem, which was interesting.

Result.—No fracture anywhere present, but a "cyst" was found in the anterior lobe of the brain, and several others of small dimensions in the brain substance, and on its lower surface. These all had the characteristic appearance of the cysts of the "tænia cellulosa" variety of man.—H. B. Eve, M.R.C.V.S., in *Veterinary Journal*, London.

RETENTION OF URINE AS A CAUSE OF COLIC IN YOUNG FOALS.

In my experience it is fairly common to have colic in foals from eight to twenty-four hours after birth, in which the bowels have been acting quite regularly, and the appetite has been normal, but where they have been carefully watched, the passing of urine has not been noticed.

At first the foal appears to be getting rather dull, it then begins to kick a little and walk round the box more than usual, stretches itself as though about to urinate, but does not.

After some time, it lies down, but not for long, rises again and assumes the position for micturition, without any result. It may suck a little milk, then wander round a little and lie down, but does not seem to be comfortable, and does not fall asleep.

When this has been repeated several times, symptoms of more acute pain develop, and there is persistent rolling on to the back or over the body from one side to the other, with some groaning. Every now and again there is an endeavor to micturate, which is ineffectual, until the pain becomes so extreme that constant groaning and rolling is evidenced. Occasionally at this time the foal will rise, and when up, it goes round the box at a smart pace, almost a trot, and frequently also kicks out with the hind legs.

In cases of some standing the belly looks fuller than it should be, and in extreme cases palpitation reveals the presence of liquid in the abdomen. The temperature is normal, but the pulse is very frequent and full, even hard, and the breathing is blowing in character.

It is most frequently seen in colt foals. I have only seen one case in a filly foal.

To me, it appears that it might be due to either of two causes, viz:

(1) A weakness of the bladder wall, which makes it incapable of expelling the contents.
(2) A gluing together of the walls of the urethra with mucus, which the contraction of the bladder is unable to overcome.

The case I had in the filly foal was undoubtedly due to weakness of the bladder, which disappeared in a few days, and gave no further trouble.

Treatment.—Small doses of spt. of Ether nit. are quite frequently given by the owner, before seeking advice, and quite often with happy results. The owner thinks it is due to the medicine stimulating the excretion of urine, which, according to his idea, is in abeyance. But, in my opinion, the extra quantity of urine excreted produces sufficient pressure in the bladder to overcome the obstruction in slight cases, and recovery follows. In cases where it fails the extra pressure produced only aggravates the case.

The quickest way to give relief is catheterisation. In filly foals this is not difficult to accomplish and in the case I had it was done thrice daily for three days before micturition was normally performed.

For colt foals I don't know that a cathether is manufactured, at least I ordered a foal's cathether several years ago and the one I got would do for a colt nine months old or so, but is hopeless for a new-born foal. However, the whalebone stillet sent with it appeared to be about the proper thickness, and quite flexible, and a trial was made to introduce it into the bladder. It proved to be easy to accomplish, and in every case in which it has been used micturition took place shortly afterwards, with immediate and permanent relief from the pain, no further treatment being required. Perhaps some instrument maker may take the hint and produce a proper instrument.—P. Wilson, M.R.C.V.S., in *Veterinary Journal,* London.

ARMY VETERINARY SERVICE.

Lieutenant Colonel D. S. White, now in France, has been appointed Chief Veterinarian of the American Expeditionary Forces.

Major Gerald E. Griffin has been promoted to the grade of Lieutenant Colonel. Colonel Griffin is the Senior Veterinary Instructor at the training school for the organization and training of veterinary hospital units, Camp Lee, Va.

First Lieutenants A. H. F. Harmening and Peter T. Pedersen have been promoted to the grade of Captain.

Second Lieutenants Paul L. Robinson, Robert J. Robertson, Fred. W. Shinn, Russell J. Flanagan and Raleigh M. Ward have been promoted to the grade of First Lieutenant.

The following officers have been assigned to camp duty as meat inspectors:

Second Lieutenant Paul S. Christman, V. C.—96th Div., Camp Wadsworth, S. C.

First Lieutenant Evard A. Dean, V. C.—Camp Dodge, Des Moines, Iowa.

Second Lieutenant Geo. B. Hartke, V. C.—95th Div., Camp Sherman, Ohio.

Second Lieutenant Walter J. Kiff, V. C.—Camp Sevier, S. C.

First Lieutenant Frank C. Meisner, V. C.—97th Div., Camp Cody, N. M.

Second Lieutenant M. H. Gandy, 56th Field Artillery, Camp Bowie, Tex., has been promoted to the grade of First Lieutenant.

Lieutenant Ashe Lockhart, Veterinary Corps, has been transferred from Camp Devens, Mass., to Camp Lee, Va.

Lieutenant C. J. Norden, Veterinary Corps, is reported to be seriously ill with pneumonia at Camp Mead, Md.

Second Lieutenant W. D. Odou has recently been promoted to First Lieutenant and is now located with Veterinary Replacement Unit No. 2 at Camp Lee, Va.

First Lieutenant A. H. Harmening has been promoted to Captain.

Lieutenant H. T. Ludwig of Oklahoma City has recently been transferred to Chicago, Ill., where he is on duty under Major Lytle.

ASSOCIATION NEWS.

AMERICAN VETERINARY MEDICAL ASSOCIATION.*

ADDRESS OF WELCOME.

HON. E. J. CATTELL, City Statistician of Philadelphia.

Mr. President, Members of the Convention, Ladies and Gentlemen:

I am very happy to be here, but after that flattering introduction I am afraid the "treat" is liable to go into retreat. This is a morning when all our ideas seem to go to the seashore and leave us at home. But one thought is dominant, and that is that you are distinctly welcome to this Old Mother City of the Republic.

You take in the whole American continent, and take in Canada, which gave me back my life. I was born in Philadelphia, but when I was broken in health a great Canadian physician gave me back my life.

I want to say in behalf of the 108th Chief Magistrate of Philadelphia, Mayor Smith, that you are welcome, and doubly welcome. Each visitor to Philadelphia will perhaps take away from Philadelphia a new realization of life, a realization that life is worth living. In a crisis like this the first thing for those not on the firing line is to get a new realization of the things called life. It will inspire us and put into our actions a new quality and power. Frankly, I grow more in love with life as I grow older. I want to live to a hundred, and then renew the lease with double the rent and repairing done by the tenant. It seems to me a great deal of repairing will be needed on the roof (referring to bald head). However, I have no fear, for I never see cheap furniture with a marble top. (Laughter.)

We should get the spirit that was put into a phrase spoken by a dear little chap in our Public Building a few years ago, who fell part way downstairs. When I picked him up he said, "I was going down, anyway." My philosophy of life is, "If I can't get what I like I like what I get." That is a good rule even for married people. (Laughter and applause.) If we will only

* 55th Annual Meeting, A. V. M. A., Philadelphia, 1918.

get over this habit of borrowing trouble. Carlyle once went to see a neighbor of his who had a pet rooster, and said, "You will have to get rid of that rooster." The lady said, "Poor Bo only crows three times each night, each crow only three seconds; what is nine seconds of crowing to a strong man like you?" Carlyle answered, "Madam, you don't know what I suffer waiting for the blamed thing to crow." (Laughter.)

It is this walking into tomorrow with legs only long enough for today that causes all the trouble. It is the ability to fill every moment of every splendid hour with actions of value to others—that is the secret of a long life. And life often is not measured by the number of years. These splendid fellows giving back to God the life that has been given them live centuries in that moment of sacrifice, and give a new value to every hour of life lived everywhere. These splendid boys are in my heart all the time, and every hour of every day I send a prayer to the Living God, "Take the dying to Thyself; give the wounded splendid recovery; bind up the broken-hearted, and bring our boys home with victory." (Applause.)

But we have got to do our part. America is divided into two classes: we have either got to live to serve or die to save. Each man and woman must say, each American, "The world does not owe me a living, but I owe a life."

I am glad to see so many of the ladies here. The Lord made man first, and woman after; but man has been after woman ever since; and whenever there has been any real development you will find woman at the basis of it. I have a sign in my office which reads, "If a pretty girl passes and I don't notice her, send for the coroner; I am dead." (Applause and laughter.) We have got to depend on them and we have got to depend on ourselves, and get down to a hard basis. It is all very well to rhapsodize on how much we love Old Glory, and how much we owe to the Constitution, the Declaration of Independence, and Magna Charta—we must hitch our wagon to a star, but have long traces, so as to keep things moving.

I was in a magistrate's court, and one of the prisoners was a Salvation Army captain. The magistrate asked, "What is your name?" The prisoner answered, "Simmons." Question: "Where do you live?" Answer: "Heaven is my home." The magistrate: "Thirty shillings fine. That is the disadvantage of living in the suburbs." (Laughter.) There are so many people who live in the suburbs and not in the heart of life,

rhapsodizing about the joy of living and not doing anything for anybody. Each one has an opportunity every hour to get right down to doing things. We are in a fight now to the finish, double or quits. I am of the opinion we are going to win out hands down, and much quicker than people think. (Applause.)

I remember a young fellow who was a bad boy but had a good father, a Baptist preacher. The bad boy thought his father had gone away. His father came home suddenly while the boy was home playing cards. He had a good hand, but was at a loss where to put it when his father so suddenly returned. He ran and put it into is father's gown that hung in a closet nearby. The next day his father had an immersion. Both banks of the stream were lined with people. When he was ready to read the service he put his hand into his gown, but instead of bringing out a prayer book he brought out the ace of hearts, the king of hearts, the queen of hearts, the jack of hearts, and the ten. The father grabbed the boy and said, "Can't you help your father?" The boy said, "You don't need any help with a hand like that." (Laughter.) We don't need any help with a hand like ours. We are on the side of the great moralities. I told a young friend of mine, "Boy, I don't want you to die for your country; make the other fellow die for his, and you come home."

Let us save our energy. Don't waste it in quarreling; it is so easy to get cause for offense. I remember going out one morning, and our coachman looked so down-hearted I asked him what the matter was. He said, "My wife is going to die." I said, "What is the matter?" He said, "I don't know, but the doctor says so, and he knows what he is giving her." (Laughter.) An Irishman was dying in the hospital of smallpox. They said, "Shall we send for a priest?" He said, "No, send for a rabbi." They asked him, "Why, aren't you a Catholic?" He said, "Yes, but I don't want to give my priest the smallpox." (Laughter.) A dear old couple in Philadelphia, who had never driven a horse, went to Delaware on their twentieth anniversary. At Wilmington they hired a team, and while driving a shower came up. The old man took his wife's umbrella and put it over the horse. His wife said to him, "Why don't you put it over me; I am getting all wet." The old man said, "The livery man told me this horse was all right if I kept the rein from under his tail." (Laughter.) It is misunderstanding that causes so much trouble. I had a friend who had a war garden and said he was going to plant a

lot of corn. I met him later and said, "Did you put any corn in?" He said, "No, the guide book said that corn is raised in hills, and our garden is flat." (Laughter.) There is always a task for our hands if we have the heart for the work.

Philadelphia, the Mother City of this great republic, is very happy to welcome you. At this particular time we feel a particular pride in our boys, because Pennsylvanians have been receiving a baptism of fire in the last couple of weeks. In this very hotel, only a few yards from where I am standing, a boy met his father only a few weeks ago, and slipped his arm over his father's shoulder and gave him a hug like a boy coming home from school. Three weeks ago that boy, leading his troops, fell, facing the foe. The father is heart-broken. He had a telegram from the other boy, his only son left living, now on the way over, saying he was grieved the boy had to go, but if he had to go that is the way he would have him go.

That is the Spirit of America, of splendid Canada, of all the Allies; and that spirit renders man invincible, practically invulnerable as regards the soul.

You are happy, we are happy—we are all happy—in having you meet here today to exchange views. Emerson says, "These are days in which if any man has a helpful heart he owes it to his neighbor; and if he has a burden he owes it to his neighbor and himself to carry it to the Living God, the Great Burden-Bearer, and not take it to others and add to their sorrow." A dear girl friend of mine was grieving over the death of her little baby, breaking her husband's heart. I went over to tell her not to grieve. I was waiting at the door of the little bungalow, and knocked at the door, and while waiting I didn't know what to say to her; but when I saw her face I saw she had learned the lesson herself. I said, "Jennie, you must not grieve over Ethel as you do. It won't help." She said, "Yes, I know that now. Yesterday when I was cleaning up Ethel's playroom I saw her little shoes, empty; and I must have fallen asleep, for I heard the singing of little children and I ran to the window and saw a line of little angels, each carrying a torch and singing. At the end of the line I saw my little girl, and her torch was out, and her face was in shadow. I said, 'Why is your torch not burning?' She said, 'Mamma, your tears have put it out.'" In these days of crisis let one of these splendid results from all the blood and tears be a stronger self-reliance, and reliance on Him who holds in the hollow of His hand the destinies of the world.

You are welcome to this city of nine hundred churches, and three hundred and seventy-six thousand homes; and from those churches and homes there are prayers lifting every hour of the day that out of this period of trial will come a better time, a time of understanding between man and man, and between nation and nation, an understanding that man does not live to himself alone.

May God bless you in your deliberations, and when you go from Philadelphia may you carry a new realization of the value of life, and a new joy in life and belief that out of this great war shall come to remain "A government of the people, by the people and for the people," and it shall be insured for all the liberty-loving people of the world. (Applause.)

President Moore has appointed the following committees of the A. V. M. A.:

INTELLIGENCE AND EDUCATION.

Geo. W. Dunphy, Chairman (2 years), E. Lansing, Mich.

J. A. Kiernan (3 years), Bureau of Animal Industry, Washington, D. C.

Cassius Way (4 years), 781 Ocean Ave., Brooklyn, N. Y.

Geo. H .Hart (1 year), Univ. of Calif., Berkeley, Cal.

H. D. Bergman (5 years), 711 Hodge Ave., Ames, Ia.

LEGISLATION.

W. Horace Hoskins, Chairman (3 years), 338 E. 26th St., New York, N. Y.

J. P. Turner (2 years), 916 O St., Washington, D. C.

S. J. Walkley (1 year), 185 Northwestern Ave., Milwaukee, Wis.

C. B. Palmer (5 years), Easton, Pa.

F. A. Bolser (4 years), 1200 Race St., Newcastle, Ind.

BUDGET.

(Ex-Officio Membership.)

V. A. Moore, President, Ithaca, N. Y.

M. Jacob, Treasurer, 312 W. Church St., Knoxville, Tenn.

N. S. Mayo, Secretary, 4753 Ravenswood Ave., Chicago, Ill.

John R. Mohler, Chairman Executive Board, Washington, D. C.

SALMON MEMORIAL FUND.

J. F. Winchester, Chairman, Lawrence, Mass.

W. Horace Hoskins, Secretary-Treasurer, 338 E. 26th St., New York, N. Y.

J. S. Anderson, Seward, Nebr.

S. Brenton, 121 W. Alexandrine Ave., Detroit, Mich.

David F. Fox, 1215 15th St., Sacramento, Cal.

J. G. Rutherford, Canadian Pacific Ry., Calgary, Alta.

SECRETARY'S OFFICE.

A slight change has been made in handling funds of the Association. All funds received by the Secretary are placed in a Chicago bank at once and these funds are sent to the Treasurer every month. This is a more convenient plan for all concerned. Sometimes a check is returned unpaid and the Secretary is able to take the matter up without delay. This method also furnishes an additional check on the funds and simplifies the work of the Treasurer.

If you have not paid your 1918 dues, please send in your remittance promptly and get your 1918 membership card. This will assist us very much.

Members of the Association should not send their subscriptions to the Editor of the Journal, as the $5.00 annual dues are divided, half going to the Journal fund, but this is paid through the Treasurer.

The Secretary wishes to suggest to the Canadian members the importance of inducing the Canadian postoffice department to adopt a modern style of money-order. The one now issued is about as inconvenient as could be devised. We feel like going out behind the barn and making a few remarks every time one is received. Don't let this little kick deter you from sending in your dues.

A number of complaints from members who have not received their Journal come to this office and the Editor doubtless receives many more. Remember that second-class mail is not forwarded, so when you change your address notify the Editor promptly.

Send the Editor news notes about yourself or others, and help him make *our* Journal the best veterinary journal in the world—and don't forget to boost for the Association. Have you got a new member lined up for this year? Send in his application at once.

"Everybody get busy."

As a result of the postal-card nominations the following are the candidates for members of the Executive Board of the A. V. M. A. for Districts No. 2 and No. 3 (the names are given alphabetically):

District No. 2—W. H. Hoskins, L. H. Howard, C. J. Marshall, T. E. Munce, and C. Way.

District No. 3—A. H. Baker, S. E. Bennett, S. Brenton, D. M. Campbell, and A. McKercher.

A rather peculiar incident in connection with the nomination in District No. 3 was that a veterinarian not a member of the Association received enough nominating votes to put him on the list had he been a member.

The postal-card votes on the nominations have been mailed.

N. S. M.

SECRETARY'S ANNUAL REPORT.

The last fiscal year of the American Veterinary Medical Association may be considered as an unusual one, as it marks the ending of the first year after the adoption of the new constitution, also the ending of the first full year of the Association's publishing of its own official journal. This new departure was closely watched by all members of the organization, especially so by those who entertained some skepticism regarding the wisdom of such an enterprise from a financial point of view. Last year's records seemed sufficient to allay all anxiety along this line, as the report of the treasurer shows that the combined bank balance for the journal and Association was $3,142.87. The secretary's report shows much of the detail which was put into operation not only to bring the office of the Editor and Secretary into a close and harmonious working relation, but also in carrying out the requirements of the new constitution.

This year marks an epoch in our history, as it shows conclusively the strength of our organization during the crisis through which our country is passing at the present time. In this connection, I may call your attention to the importance of having an organization such as the A. V. M. A. When war was declared by this country a year ago last April, and the call went out for the services of qualified men of all of the various professions, for assistance in this world struggle, we were not found wanting. Without the existence of our present organization it would not have been possible last year at Kansas City to have sent to the

Honorable President of the United States such a telegram as was sent by our President and Secretary: "The American Veterinary Medical Association, in convention assembled, places its three thousand members at your command, to give and to serve as a body as you direct."

Not only did we pledge our support, but the call went out from the A. V. M. A. to the veterinarians, and a splendid response, of which we are all justly proud, was the result, as is shown by the large number in the Veterinary Reserve Corps, and the large number on the waiting list.

It is impossible for me to indicate on paper the valuable services that are being rendered by members of the veterinary profession both in this country and overseas; but, suffice it to say, we are standing side by side with the other professions in doing our bit to throttle the Kaiser, curb autocracy and make this world a fit place for civilized people to live in.

The further importance of our organization is attested to by the fact that at the present time 1,812 members of our profession are engaged in various war activities, many of whom are doing so at great financial sacrifice. I dare say that we would scarcely have a corporal's guard at this meeting if there was need for the rest of us in active service, and as long as this country would need our services, we would continue to offer them until all the members of our organization had volunteered.

The last has also been a record year from the standpoint of increasing our forces, as is shown by the fact that we have received during the last fiscal year a greater number of applications for membership in the Association than has been received in any one year since the Association was founded. This speaks well for the splendid seed which has been sown in previous years.

The veterinarians employed in the Bureau of Animal Industry early in the year began to lay plans, which are nearly completed at this time, to form an organization among themselves, the objects of such organization being the promotion of professional efficiency and the material interest of the Bureau veterinarians. The underlying principle of the plans of this movement is to interest all of the veterinarians of the Bureau of Animal Industry to become members of the A. V. M. A. This movement has been conducive of splendid results, as is shown by the large number of applicants received from the B. A. I. force. In several of the large official stations all of the veterinary in-

spectors who were not members of the A. V. M. A. have made application this year.

Early in the Spring, the Secretary's office sent a circular letter to the commanding officers of the various cantonments and remount stations, urging them to interest all of the non-members of the A. V. M. A. to join this body. These letters brought very satisfactory results, which are evidenced by the large number of applicants received from this source. And I am proud to say that several of the commanding officers reported that all of the non-members in their command had filed applications. Your Acting Secretary does not wish to take full credit for this work, but feels that much of the credit should be given those commanders in the National Army, and those in the Bureau of Animal Industry, who, by their unceasing effort, succeeded in interesting those about them to take this very important step. Credit should also be given your Secretary and former President for valuable suggestions received along these lines.

Much valuable work could be done by sending a representative of this Association to the meetings of State or District Associations, to assist in discussing papers or clinics, or even to take a more active part on the program, and at the same time explain the advantages to be derived by joining the A. V. M. A. The stimulus of such assistance would be of untold benefit, and as a result many would file applications for membership who would not do so otherwise; and oftentimes such individuals become the most enthusiastic members.

On January 1, 1918, we had slightly over 1,700 who were in arrears with their dues. This included those in arrears for 1916 and 1917. April 1, there were about 700 in arrears. Now this number has been reduced to 422, with 128 of this number 1916 delinquents and 316 1917 delinquents. Of the 1917 delinquents, I feel that at least 50% will pay their dues, and a few of the 1916 will pay. I find that a number of members like to let their dues run for a couple of years before paying. This is a bad practice, as it not only causes a great amount of unnecessary work both for the Editor and Secretary, but is also liable to cause a break in the files of their journal, which the Editor may be unable to repair. The postoffice authorities are very strict in enforcing the postal regulations forbidding the sending through the mails newspapers and journals the subscription charges for which are not paid in advance. Since a part of the dues to the A. V. M. A. pays the subscription to the journal, it places the

Editor in an embarrassing position. He wishes to continue the journal so as not to cause a break in the files of the member, but is prevented from doing so by the postoffice authorities.

On December 5, 1917, there was a meeting of the Executive Board. Those present were: Dr. John R. Mohler, Chairman and Member of the Third District; Dr. C. H. Stange, Member of the Fourth District; Dr. F. Torrance, Member of the First District (his successor had not been elected); and Dr. A. T. Kinsley, Member at Large. Dr. W. Horace Hoskins, Member of the Second District, and Dr. R. A. Archibald, Member of the Fifth District, were unable to attend. The meeting was held at the Sherman Hotel, Chicago, Illinois. The first order of business was the adoption of the minutes of the Kansas City meeting. The wish of Secretary, Major L. A. Merillat, that Dr. L. Enos Day act as Acting Secretary during the remaining portion of his term of office was discussed and accepted. It was also decided that in order to meet the demands of the Secretary's office, the Acting Secretary be empowered to engage a competent stenographer when required for extra work, such expense not to exceed $300.00 until further approval by the Executive Board.

MEMBERSHIP.

This year marks the banner year of the Association in the number of applications for membership in this organization. More applications have been received this year than in any one year since the founding of the Association. Last year there were 553 applications received, and this was the largest number received in one year up to that time. This year we have received 1,028 applications, which is 475 more than last year; the excess alone over last year being about the usual number received in former years.

Our membership now stands as follows:

Members in good standing	2,386
Members in arrears for 1917	316
Applicants in 1918	800
Total	3,492

The sources of the applications are as follows:

Army Reserve Corps	275
Bureau of Animal Industry	328
From all other sources	198
Total	801

It is our opinion that the large influx of applications this year is largely due to the organized efforts above mentioned. I would suggest that each member should make a solemn vow to act as a committee of one for the purpose of securing at least one new member before the next meeting. If this will be done, the results will be astounding.

On looking over this excellent list of applicants, I am somewhat surprised to see the names of quite a number who graduated many years ago; several of them being classmates of mine. I at once asked myself the question, Why have these men not become members before? The probable solution is that the objects of the A. V. M. A. have not been previously explained to them, or possibly they have never received an invitation to join. Let us never let a chance go by to extend the inviting hand to a worthy veterinarian. L. ENOS DAY, Acting Secretary.

REPORT OF TREASURER.

RECEIPTS.

(August 7, 1917, to August 8, 1918)

1917			
August	8,	To balance	$2,268.35
August	13,	Deposit from Dr. L. A. Merillat	918.50
September	4,	Deposit from Dr. L. A. Merillat	394.50
September	4,	Deposit	198.00
September	4,	Deposit	158.55
September	4,	Deposit	854.50
September	4,	Deposit	176.50
September	13,	Deposit	206.00
September	22,	Deposit	129.00
October	11,	Deposit	249.75
November	19,	Deposit	318.00
November	19,	Interest on deposit	32.76
1918			
February	4,	Deposit	293.50
March	7,	Deposit	790.75
March	26,	Deposit	310.00
April	23,	Ralph D. Sonet's check for dues and protest	16.50
April	23,	Dr. L. L. Shorten, Concordia, Kansas	10.00
April	23,	Deposit from Dr. L. E. Day	192.00
May	20,	Deposit from Dr. L. E. Day	296.00
June	5,	Deposit from Dr. L. E. Day	109.00
June	15,	Deposit	122.65
May	1,	Interest from bank	43.74
July	1,	Deposit from Dr. L. E. Day	347.50
July	15,	Deposit from Dr. L. E. Day	407.65
July	25,	Deposit from Dr. L. E. Day	507.75
August	8,	Deposit from Dr. L. E. Day	1,002.65
		Receipts	$10,354.10
		Expenditures	5,416.95
		Bank book balance, August 8, 1918	$4,937.15

EXPENDITURES.

August	8,	To balance	$2,268.35
August	7,	Dr. L. A. Merillat, salary and expenses as Secretary, July	271.65
August	7,	Stickney & Montague, addressograph and equipment.	135.26
August	24,	Geo. H. Roberts, payment account of stenographic work	300.00
September	6,	Dr. W. Horace Hoskins, expenses as Chairman of the Legislative Committee	74.10
September	6,	Expenses of Secretary of Salmon Memorial Committee	43.33
September	8,	Modern Press, printing for Secretary's office	71.25
September	8,	Dr. C. J. Marshall, expense incurred as Chairman of Army Service	137.80
September	8,	Dr. W. M. Burson, expense of Secretary for Georgia.	2.00
September	8,	Dr. S. J. Walkley, expense incurred promoting passage of Lobeck Bill	39.44
September	6,	Dr. Charles E. Cotton, expense incurred as President of Association attending conference with Army Service Committee of Washington	89.70
September	6,	Dr. D. S. White, expense incurred as a member of Army Service Committee	37.38
September	6,	Magnus, Flaws & Co., balance for printing	31.50
September	6,	American Multigraph Co., installment on Multigraph	14.87
September	14,	Sun Printing Co., printing Treasurer's Report	47.50
September	14,	Dr. L. A. Merillat, expense Secretary's office for August and expense incurred 54th Annual Meeting	408.60
September	14,	Dr. V. A. Moore, expense as member of Army Service Committee, payment approved	95.66
September	14,	George H. Roberts, balance due reporting 54th Annual Meeting	205.00
September	14,	Thos. H. Ferguson, expense as Chairman of Section on General Practice	10.05
September	14,	J. H. Blattenberg, expense incurred as Secretary of Section on General Practice	24.15
September	14,	Martin Printing Co., printing programs of 54th Annual Meeting	30.00
September	14,	Dr. F. B. Jones, check from Chicago marked "Account Closed." Check mailed to Dr. L. A. Merillat	10.00
September	14,	E. C. Dildine, check from Chicago returned unpaid. Check mailed to Dr. L. A. Merillat	5.00
September	20,	American Multigraph Co., installment on Multigraph	14.87
September	20,	J. G. Wills, expense incurred as Chairman of Section on Sanitary Service	7.23
September	20,	Dr. F. H. Schneider—	
		Expressing reports $3.60	
		Auditing books, H. E. Hosbach 25.00	
		One-half office expenses for July and August 41.26	
			69.86
September	20,	C. L. Nelson, Winfield, Kansas, returned unpaid	5.00
September	20,	A. M. Taylor, St. Paul, Minn., returned unpaid	5.00
September	20,	L. F. Workman, Chatom, Ala., payment stopped	10.00
October	26,	Dr. L. A. Merillat, salary and expense for September	147.30
October	26,	The Modern Press, printing	58.00
October	26,	Stickney & Montague, exchange of Addressograph invoice and credit attached	95.00
October	26,	American Multigraph Co., 10th installment	14.79
October	26,	Julian Grayson, services as expert accountant necessitated to validate bond for current year	15.00
October	26,	John W. Spence, expense of Committee on Army Service incurred by Chairman C. J. Marshall	26.85

October	26,	Johnson & Prince, expense of Committee on Army Service incurred by Chairman C. J. Marshall....	8.95
October	26,	Marshall & Jackson Co., printing supplies, invoices and statements.....	33.50
October	26,	W. W. Harless & Co., renewal of Secretary's bond...	17.50
October	26,	W. Horace Hoskins, expense of Salmon Memorial Committee	50.00
October	26,	B. Slade, legal services employed in effecting corporation of Association.....	25.00
November	6,	John P. Simons, order to J. B. Johnson check on West Englewood Ashland State Bank, Chicago, Ill., and protest $25.00	
		Expense 3.12	
			28.12
December	1,	Dr. S. J. Walkley, expenses in connection with Legislative Committee.....	11.91
December	1,	Dr. F. Torrance, stationery for use in President's office	22.75
December	1,	The Modern Press, printing letters.....	3.00
December	1,	Dr. W. Horace Hoskins, expenses incurred while engaged in Legislative Committee.....	58.79
December	1,	Dr. S. J. Walkley, expenses incurred in connection with C. legislation.....	9.52
December	1,	Dr. L. Enos Day, October salary and expenses of Secretary's office.....	116.25
December	1,	Magnus Flaws Co., printing.....	6.50
December	1,	Dr. W. W. Webb, expenses incurred as Resident Secretary of Alabama.....	10.00
December	10,	Dr. L. Enos Day, November expenses in connection with office Secretary.....	140.40
December	20,	Dr. Mark White, refund on initiation fee.....	2.00
December	20,	Record Printing Co., printing for A. V. M. A. during meeting of 1916, Detroit, Mich.....	52.00
1918			
January	15,	Dr. U. G. Houck, spray of roses in memory of Dr. A. D. Melvin.....	10.00
January	30,	American Multigraph Sales Co., installments 11 and 12 on Multigraph bill, dated January 4, 1918.....	29.30
January	30,	Dr. L. Enos Day, December expenses in connection with office of Secretary.....	181.27
January	30,	Dr. S. J. Walkley, expense in connection with Legislative Committee	17.37
January	30,	Modern Press Co., 1500 envelopes for Secretary's office	4.00
January	30,	Dr. W. Horace Hoskins, expense for November and December, member of Committee on Legislation..	87.72
January	30,	Dr. S. J. Walkley, expense as member of Legislative Committee from December 1 to December 31, 1917, inclusive	8.75
February	19,	E. C. Shumate, premium on Treasurer's bond.....	25.00
February	19,	Dr. Enos L. Day, Secretary's salary for January....	121.25
February	19,	Stickney & Montague, stationery and office supplies	90.54
February	15,	Check returned, Concordia, Kan.....	10.00
February	11,	Check returned, Atlanta, Ga.....	16.50
March	15,	Dr. Enos L. Day, February expense, Secretary's office	166.30
March	15,	A. Newell, floral wreath ordered by Dr. A. F. Kinsley for Dr. S. Steward's funeral.....	10.00
March	25,	Modern Press, stationery and office supplies for Secretary's office.....	68.75
March	25,	Dr. S. J. Walkley, expense as member of Committee on Legislation.....	11.08
March	25,	Dr. F. H. Schneider, expenses in connection with office of Treasurer	124.48

April	5, Dr. R. C. Moore, expense attending meeting of Committee on Intelligence and Education, Chicago, March 5 and 6, 1918	35.20
April	5, Modern Press, envelope post cards, blank sheets, letterheads, postage and 5,000 envelopes for March 1, 1918	78.19
April	5, L. W. Gross, Manhattan, Kansas, for stamps while acting as State Secretary for the year 1917	7.64
April	11, Geo. W. Dunphy, expenses incurred acting as Chairman, Committee on Intelligence and Education, during month of March	94.73
April	11, Dr. L. Enos Day, expenses of Secretary's office for month of March, 1918	150.93
May	7, Modern Press, stationery	39.50
May	7, Modern Press, printing of election cards	6.00
May	9, M. M. Rothschild, 70 circular letters	2.00
May	9, Dr. W. Horace Hoskins, expense incurred acting as Chairman of Committee on Legislation	61.53
May	21, Dr. L. E. Day, salary and expense for April	126.00
May	20, Dr. S. J. Walkley, expense as member of Committee on Legislation for March and April, 1918	4.95
June	7, Dr. L. E. Day, expense and salary of Secretary's office for May	116.50
June	7, Modern Press Co., printing cards and application blanks	30.25
June	18, Dr. V. A. Moore, expense as member of Military Committee for March	28.66
June	18, F. H. Schneider, expense for March, April and May	60.00
March	14, Check returned, Leaminster, Mass	5.00
March	22, Check returned, Clayton, Miss	10.00
April	2, Check returned, Birmingham, Ala	5.00
May	1, Check returned, Defiance, I	5.00
May	2, Check returned, Galion, I	5.00
May	3, Check returned, Chillicothe, I	5.00
June	6, Check returned, Berkeley, Cal	5.00
June	25, Check returned, Strasiung, Va	10.00
July	5, American Journal of Veterinary Medicine	21.00
July	5, World Press, printing 1000. letterheads	7.50
July	5, Dr. Geo. W. Dumphy, expense trip to Toronto for inspection of college	22.51
July	18, Dr. L. E. Day, expense and salary for Secretary's office for June	202.76
July	18, W. Horace Hoskins, expense as member of Committee on Legislation	106.16
July	18, W. Horace Hoskins, expense incurred as Chairman of Salmon Memorial Committee	12.97
July	12, Canadian collection, June 6-June 17, Canada	.22
July	25, Check returned, Mt. Vernon, Iowa	10.00
August	5, Check returned, New Iberia, La	10.00
August	3, Canadian collection, July 5	.11
		$5,416.95

JOURNAL FUND.

RECEIPTS.

1917		
August	8, Balance	$1,774.52
August	13, Deposit from L. A. Merillat	918.50
September	4, Deposit from L. A. Merillat	394.50
September	4, Deposit from L. A. Merillat	198.00
September	4, Deposit from L. A. Merillat	158.55
September	4, Deposit from L. A. Merillat	854.50
September	4, Deposit from L. A. Merillat	176.50

September	8, Deposit from P. A. Fish	290.76
September	13, Deposit from L. A. Merillat	206.00
September	22, Deposit from L. A. Merillat	129.00
October	6, Deposit from P. A. Fish, receipts from Journal	469.48
October	11, Deposit from L. A. Merillat	249.50
November	5, Deposit from P. A. Fish	414.98
November	19, Deposit from Dr. Day	318.00
November	1, Interest from bank	27.88
December	31, Deposit	368.06
1918		
January	18, Deposit	637.84
February	4, Deposit	293.50
February	15, Deposit	582.85
March	7, Deposit	425.14
March	7, Deposit	790.50
March	26, Deposit	310.00
April	6, Deposit	688.28
April	23, Deposit	192.00
May	6, Deposit	533.59
May	20, Deposit	296.00
June	5, Deposit	109.00
June	8, Deposit	485.91
June	15, Deposit	122.50
May	1, Interest from bank	45.52
July	1, Deposit	347.50
July	6, Deposit	298.71
July	15, Deposit	407.50
July	25, Deposit	507.00
August	5, Deposit	391.76
August	8, Deposit	1,002.50
	Receipts	$15,417.33
	Expenditures	11,058.23
	Balance	$4,359.10
	Add checks not cashed:	
	No. 84, Fish $125.00	
	No. 85, Fish 60.00	
	No. 87, Norton 568.53	
		753.53
	Bank book balance August 8, 1918	$5,112.63

EXPENDITURES.

1917		
August	8, A. P. Fish, salary as assistant to Editor	$50.00
August	8, Dr. P. A. Fish, salary as Editor	125.00
August	8, F. H. Schneider, expense in connection with office of Treasurer	20.83
August	15, Norton Printing Co., printing August Journal	590.18
September	6, Dr. P. A. Fish, salary for August	125.00
September	6, A. P. Fish, assistant in Editor's office for August	60.00
September	6, Charles A. Bower, examination of books of Editor's office	10.00
September	6, F. H. Schneider, one-half office expense for August	20.83
September	20, Norton Printing Co., 3500 copies September Journal, reprints, bills and envelopes	617.90
October	6, Dr. P. A. Fish, salary as Editor for September	125.00
October	6, A. P. Fish, salary as assistant to Editor, September	60.00
October	6, F. H. Schneider, one-half office expense, September	20.83
October	11, Norton Printing Co., printing October number of Journal, inserting, envelopes and miscellaneous printing	603.15

November	3,	Addressograph Co., addressograph, addresses and cabinets	227.35
November	5,	Dr. P. A. Fish, salary for October	125.00
November	5,	A. P. Fish, salary for October	60.00
November	5,	F. H. Schneider, one-half office expense for October	20.83
December	1,	Norton Printing Co., printing November Journal, reprints and mailing	476.81
December	3,	A. P. Fish, clerical assistance in Editor's office	60.00
December	3,	Dr. P. A. Fish, salary as Editor of Journal	125.00
December	3,	F. H. Schneider, one-half office expense for November	20.83
December	20,	Ithaca Realty Co., Bond No. 78309 for Editor	7.50
December	20,	Norton Printing Co., December Journal, inserting for mail, 1000 envelopes	660.49
1918			
January	8,	F. H. Schneider, one-half expenses of office for December	20.83
January	8,	P. A. Fish, December salary as Editor	125.00
January	8,	A. P. Fish, clerical assistance in Editor's office	60.00
January	15,	Jr. of Am. Vety. Med. Assn., payment of petty cash	358.24
January	30,	Norton Printing Co., January, 1918, Journal and sundries	444.98
February	9,	F. H. Schneider, one-half expense Treasurer's office	20.83
February	13,	Dr. P. A. Fish, January salary	125.00
February	13,	A. P. Fish, clerical assistance, January	60.00
February	13,	Norton Printing Co., 3600 copies, extra edition and mailing	546.33
March	2,	Norton Printing Co., February Journal	592.91
March	8,	P. A. Fish, February salary	125.00
March	8,	A. P. Fish, clerical assistance, February	60.00
March	8,	F. H. Schneider, one-half expenses Treasurer's office	20.83
March	23,	Norton Printing Co., March Journal	518.24
April	5,	P. A. Fish, March salary	125.00
April	5,	A. P. Fish, clerical assistance, March	60.00
April	5,	F. H. Schneider, one half expense Treasurer's office	20.83
April	22,	Norton Printing Co., printing April Journal	567.74
May	7,	P. A. Fish, salary for April	125.00
May	6,	A. P. Fish, salary for April as assistant to Editor	60.00
May	6,	Dr. F. H. Schneider, one-half office expenses, April	20.83
May	14,	Norton Printing Co., printing May Journal	587.24
June	3,	Dr. P. A. Fish, salary for May	125.00
June	3,	A. P. Fish, salary for May	60.00
June	3,	Dr. F. H. Schneider, one-half office expense for May	20.83
June	7,	Dr. P. A. Fish, petty cash fund	443.89
June	18,	Norton Printing Co., printing June Journal	570.36
July	5,	Dr. F. H. Schneider, one-half office expense for June	20.83
July	5,	Dr. P. A. Fish, salary for June	125.00
July	5,	A. P. Fish, salary for June	60.00
August	1,	Dr. P. A. Fish, salary for July	125.00
August	1,	A. P. Fish, salary for July	60.00
August	1,	F. H. Schneider, one-half office expense for July	20.83
August	1,	Norton Printing Co., printing for July Journal	568.53
			$11,058.23

FREDERICK H. SCHNEIDER, Treasurer.

RELIEF FUND.

RECEIPTS.

(From Dr. T. E. Smith)

1917			
August	31,	Deposit	$82.00
October	6,	Deposit	25.00
October	18,	Deposit	685.00
November	3,	Deposit	50.00

November	24, Deposit	266.00
December	10, Deposit	185.00
December	31, Deposit	50.00
1918		
January	3, Deposit	243.00
January	30, Deposit	398.00
March	7, Deposit	101.00
February	9, Deposit	460.00
March	15, Deposit	50.00
March	21, Deposit	228.00
April	6, Deposit	175.00
April	23, Deposit	236.20
May	20, Deposit	447.00
June	19, Deposit	382.50
May	1, Interest	33.49
July	1, Deposit	105.00
August	5, Deposit	285.00
		$4,987.69

EXPENDITURES.

1917			
December	10, Printing, J. H. Blattenberg	$12.10	
1918			
April	7, Canadian collection	2.65	
			14.75
	Balance bank book August 8, 1918		$4,972.94

Dr. F. H. Schneider, Treasurer,
York Road and Erie Ave.,
Philadelphia, Pa.

Dear Sir: We enclose herewith pass books and canceled checks, with a statement of the balances as of this date, in the following accounts:

American Veterinary Medical Association.....$4,937.15
Journal Fund, American Veterinary Medical Association 5,112.63
Relief Fund, American Veterinary Medical Association 4,972.94

Assuring you of our willingness to be of service to you, we remain,

Yours respectfully,
J. F. BAUDER, Cashier,
Tenth National Bank,
Broad and Columbia Avenue, Philadelphia.

CONTRIBUTIONS TO LIAUTARD-AMERICAN VETERINARY RELIEF FUND.

Dr. William J. Martin	$ 25.00
Nebraska Veterinary Medical Association	25.00
The Royal Serum Company	25.00
Dr. J. Nattress, Illinois	25.00
Dr. John C. Meyers, Cincinnati, Ohio	25.00
Dr. F. J. Pillion, Champaign, Ill	10.00
Dr. W. H. Bronson, Wyoming, Iowa	10.00
Dr. H. S. Anderson, Grand Island, Neb	10.00
Dr. W. E. Bromlei, Kirkwood, Ill	10.00
Dr. Floyd Perrin, Spencer, Neb	10.00
Dr. J. F. Baldwin, Calloway, Neb	5.00
Dr. J. F. Mitchell, Anaconda, Mont	5.00
Dr. A. J. Sorensen, Stockton, Cal	10.00
Dr. U. H. Udall, Ithaca, N. Y	10.00
Dr. C. G. Shan, Washington, Kan	10.00
Dr. J. E. Werman, Arcadia, Neb	5.00
Dr. G. M. Potter, Manhattan, Kan	5.00
Dr. B. F. Swim, Pender, Neb	5.00

Dr. E. H. Killian, Manhattan, Kan	5.00
Dr. Brainard, Memphis, Mo	5.00
Lieutenant Baney, U. S. Army	5.00
Dr. C. E. Mock, Reygate, N. Y	5.00
Dr. A. T. Kinsley, Kansas City, Mo	25.00
Dr. A. U. Smith, Farmer, Del	25.00
American Vacinie Serum Company (W. J. Norris)	10.00
Messrs. Miller & Calidemier, Louisville, Ky	10.00
Dr. H. B. Freeman, Rockville, Iowa	5.00
Southern Illinois Veterinary Medical Association	10.00
Dr. David W. Cochran, New York City	25.00
Dr. H. B. Weber, Rochester, N. Y	25.00
Dr. L. M. Walter, Napoleonville, La	10.00
Dr. W. H. Robertson, Portland, Me	10.00
Dr. B. M. Freed, Sharon, Pa	10.00
Dr. H. U. Aulger, Buckley, Ill	10.00
Dr. A. U. French, Cheyenne, Wyo	5.00
Dr. J. T. Bushing, Pearl River, N. Y	5.00
Dr. L. V. Newman, York, Neb	10.00
Dr. Enoch Jewell, Bloom City, Wis	5.00
Dr. C. H. Mehrs, Scapula, Okla	10.00
Dr. G. T. Williams, Boone, Iowa	10.00
Dr. U. M. Bell	25.00
Dr. R. A. Archibald	25.00
Dr. H. R. Schwarze	10.00
Dr. R. P. Marstetter	25.00
Dr. M. C. Hall	5.00
Dr. Fred. Anderson	25.00
Kline & Bernath	25.00
Dr. W. G. Hollingsworth	25.00
Dr. M. C. Linnemaun, Alphi Phi Fraternity	25.00
Dr. P. A. Fish, New York State Veterinary College, Ithaca, N. Y	25.00
Dr. James Robertson, Chicago Veterinary Society	25.00
Dr. A. S. Cooley	10.00
Dr. N. Rectnwald	10.00
Dr. J. H. McNeill	25.00
Dr. G. B. McKillip	100.00
The McKillip Veterinary College	100.00
Dr. J. U. Klotz	50.00
Dr. L. A. Merillat	25.00
Dr. Otto Faust	25.00
Dr. J. H. Blattenburg	25.00
Keystone Veterinary Medical Association	25.00
Oklahoma State Veterinary Medical Association	25.00
Dr. U. J. McKenney, Brooklyn, N. Y	15.00
Dr. C. Roshaney, Sea Cliff, N. Y	5.00
New York County Medical Society	25.00
Dr. U. T. Gurard	10.00
Dr. Peter Hansen	10.00
Dr. Sheperd	25.00
Dr. Beechey	5.00
Dr. C. G. Glendenning, Clinton, Ill	10.00
Dr. F. A. Downs, Kellogg, Iowa	10.00
Dr. G. Ed. Leach, Wyone, Minn	5.00
Dr. Armstrong, Providence, R. I	5.00
Dr. G. U. Moffatt, Smith, Neb	1.00
California Veterinary Medical Association	25.00
Dr. N. J. Martin, Kankakee, Ill	25.00
Dr. W. J. Morgan, Illinois	5.00
Dr. R. J. McCourtney, Joplin, Mo	5.00
Silver dollar donation to the ring	46.00
Dr. Richard H. Kingston, New York City	25.00
Dr. O. R. Schuler, Jefferson St., Brooklyn, N. Y	10.00

Dr. P. V. Weaver, Glen Cove, L. I.	5.00
Dr. Cassins Way, New York City	5.00
Dr. J. Ellicott Crawford, Far Rockaway	5.00
Drs. Gannett & Risley	25.00
Dr. Henry Amling	25.00
Dr. W. Horace Hoskins, New York City	25.00
The Corwin University, Long Island	10.00
Canadian Veterinary Medical Association	25.00
Northwestern Ohio Veterinary Medical Association	100.00
Dr. C. H. Taylor	15.00
Dr. C. M. Haring	50.00
Dr. J. M. Leichty	10.00
Dr. Ed. Harris	25.00
Dr. A. A. Eddingsfield	10.00
Dr. Theo. Burnett	10.00
Dr. H. J. Kleine	10.00
Dr. R. J. Sarver	5.00
Dr. T. E. Smith	25.00
Dr. Robert McCully, New York	30.00
Dr. C. H. Anthony, Oklahoma City, Okla	10.00
Dr. James T. Glennon, Newar, N. J	10.00
Dr. A. J. Kulp, Adel Iowa (Iowa State Alumni)	58.00
Dr. B. J. Sims (Oregon State Veterinary Medical Association	25.00
Dr. R. A. Lauzader, Morrisville, Ill	25.00
Pittman-Moore & Co., Indianapolis, Ind	25.00
Charles Chase, Bay Shore, N. Y	10.00
H. R. Rider, Chicago, Ill	10.00
H. A. Greene, Danville, Ill	10.00
F. E. Brown, Bradesville, Ill	10.00
J. C. Brown, Joy, Ill	10.00
W. H. Welsh, Lexington, Ill	10.00
H. E. Bremes, Ames, Iowa (Iowa State Alumni Association)	5.00
E. T. Letner, Paw Paw, Ill	5.00
W. G. Teckenbreck, Metwklis, Ill	5.00
A. G. Leginer, Leland, Ill	5.00
E. A. Drahb, Bethany, Ill	5.00
W. H. Shaw, Kinkead, Ill	5.00
A. T. Fletcher, Verden, Ill	5.00
Silas Kempf, Roanoke, Ill	5.00
H. D. Chamberlain, Belviedere, Ill	5.00
Draft dated Petone, Ill., on the Continental and Commercial Bank of Chicago, H. Eisenbrandt, Cashier	5.00
Georgia State Veterinary Association	25.00
F. H. Ferguson, Lake Geneva, Wis	25.00
R. P. Frans, Monmouth, Ill	10.00
W. Hollister, Avon, Ill	25.00
C. G. Glendenning, Clinton, Ill	5.00
U. J. Nelson, Monmouth, Ill	10.00
Tennessee Veterinary Medical Association	25.00
Nebraska Veterinary Medical Association	148.00
Hal. C. Simpson, Dennison, Iowa	10.00
G. A. Roberts, South-East Veterinary Medical Association, Raleigh, N. C.	25.00
Dr. A. J. DuFrene, Selochune, Mont	5.00
Montana Veterinary Medical Association	25.00
W. T. Pattan, Sweet Grass, Mont	15.00
F. S. Roth, Forsyth, Mont	10.00
E. C. Hever, Defiance, Mont	5.00
J. D. Quelland, Denton, Mont	5.00
Dr. S. Brenton, Detroit, Mich	50.00
Iowa Veterinary Association, Dr. H. B. Freeman	410.50
G. W. Butler, Indianapolis, Ind	5.00
W. L. Hollister	10.00

Mississippi Valley Veterinary Medical Association	25.00
Texas State Veterinary Medical Association, E. Meggs	25.00
Central New York Veterinary Medical Association, W. E. Swift	35.00
New Hampshire Veterinary Medical Association, R. W. Smith	25.00
New Jersey Veterinary Medical Association, Jas. M. Donough	25.00
State Veterinary Medical Association of Ohio, R. F. Bernath, Sec.	100.00
W. B. Rue, Chatham, Ontario	25.00
S. J. Wakely, Nebraska, Wis	3.00
Southeastern Michigan Veterinary Medical Association, H. Preston Hoskin, Secretary:	
Dr. E. E. Patterson, Detroit, Mich	26.00
Dr. J. J. Joy, Detroit, Mich	5.00
Dr. H. P. Hoskins, Detroit, Mich	5.00
Dr. H. Cornell, Detroit, Mich	3.00
Dr. H. E. State, Detroit, Mich	3.00
Mr. Martin Stapleton, Port Huron, Mich. (honorary member)	5.00
Dr. L. F. Baldock, Birmingham, Mich	2.00
Dr. J. W. Brodie, Pontiac, Mich	2.00
Dr. Judson Black, Richmond, Mich	2.00
Dr. S. Bienton, Detroit, Mich	2.00
Dr. E. B. Cavell, Detroit, Mich	2.00
Dr. F. J. Emmer, Detroit, Mich	2.00
Dr. G. F. Eualt, Richmond, Mich	2.00
Dr. M. C. Hall, Detroit, Mich	2.00
Dr. Jos. Hawkins, Detroit, Mich	2.00
Dr. E. P. Schaffter, Detroit, Mich	2.00
Dr. C. G. Stampf, Detroit, Mich	2.00
Dr. M. J. Smead, Rochester, Mich	2.00
Dr. J. Wardel, Mt. Clemens, Mich	2.00
Dr. R. H. Wilson, Rochester, Mich	2.00
Dr. Jos. E. Zelter, Detroit, Mich	2.00
Dr. E. J. Walters, Wyandotte, Mich	2.00
Southeastern Michigan Veterinary Medical Association (from treasury)	20.00
Connecticut Valley Medical Association, A. T. Gilyard, Secretary:	
H. A. Overhill, Wash. Dep., Conn	5.00
Dr. P. T. Keeley, Waterbury, Conn	10.00
Dr. G. E. Corwin, Hartford, Conn	5.00
Dr. J. J. Flaherty, New Haven, Conn	5.00
Dr. Harrison Whitney, New Haven, Conn	5.00
Dr. A. C. Knapp Budgeport, New Haven, Conn	5.00
Dr. Thos. Bland, Waterbury, Conn	10.00
Dr. O. Schreock, New Haven, Conn	5.00
Dr. H. E. Bates, Norwalk, Conn	5.00
Dr. J. S. Schofield, Greenwich, Conn	5.00
Dr. F. D. Coles, Corwich, Conn	5.00
Dr. L. B. Judson, Winstead, Conn	5.00
Dr. C. L. Colton, Hartford, Conn	10.00
Dr. Chas. H. Beere, Waterbury, Conn	5.00
Dr. A. T. Gilyard, Waterbury, Conn	10.00
Dr. E. M. Beckley, Meriden, Conn	5.00
Dr. G. T. Crowley, New Britain, Conn	5.00
Dr. C. L. Chaney, New Haven, Conn	5.00
Dr. R. H. Davis, Stamford, Conn	5.00
Dr. J. L. Deveraux, Waterbury, Conn	5.00
Dr. E. R. Dimock, Merrow, Conn	5.00
Dr. V. M. Knapp, Danbury, Conn	10.00
Dr. Edu. Laitenin, Texarkana, Ark	55.00
Dr. R. D. Martin, Bridgeport, Conn	55.00
Dr. E. C. Ross, New Haven, Conn	10.00
Dr. E. L. Thornton, Canaan, Conn	5.00
Dr. R. S. Todd, New Milford, Conn	5.00
Mr. J. M. Whittlesey, Hartford, Conn	5.00

Connecticut Veterinary Medical Association	100.00
Illinois State Veterinary Medical Association	150.00
C. A. Cary, Auburn, Ala	25.00
W. B. Switzer	2.00
Central Canadian Veterinary Association, Prest Torrence	100.00
Novia Scotia Veterinary Association, A. Gill, Secretary	50.00
Edu. A. Cahill	.....
Chest & Paquin	5.00
M. N. Neveto	5.00
U. H. Burdick	5.00
Daniel Emerson	55.00
Langder & Ferrhengbern	5.00
Edu. A. Cahill, Secretary	10.00
Dr. Gilbert, Bingham, Mass	5.00
Iowa Veterinary Medical Association, H. D. Bergman, Secretary	221.20
Missouri Valley Medical Association	102.00
Wisconsin State Veterinary Association	100.00
Wisconsin State Veterinary Medical Association, Subsenptunfin Milas	180.50
Michigan State Veterinary Medical Association	100.00
W. B. Washburn, Tiffin, Ohio	5.00
A. D. Knowles, Missoula, Mont	25.00
F. H. Schnieder, Philadelphia, Pa	25.00
U. Jay Miller (check credit Iuea Veterinary Association)	5.00
Celuado Veterinary Medical Association	100.00
Douthew Tier Veterinary Association	50.00
D. E. Bchefold (Cermeial Veterinary Medical Association)	5.00
Dr. D. M. Campbell	100.00
Illinois Veterinary Medical Association:	
Dr. E. Grab, Bethany, Ill	5.00
Elmore Live Stock Company, Peoria, Ill	25.00
Dr. A. T. Peters, Peoria, Ill	25.00
Dr. H. Presler, Fairbury, Ill	10.00
Dr. C. C. Mills, Decatur, Ill	10.00
Dr. Jas. Smellis, Eureka, Ill	10.00
Dr. F. H. Burt, Chenoa, Ill	10.00
Dr. T. J. Foster, Monticello, Ill	10.00
Dr. W. G. Nielson, Monmouth, Ill	10.00
Dr. F. E. Hagey, Lostant, Ill	5.00
Dr. C. H. Nye, Cambridge, Ill	5.00
Dr. H. A. Geer, Danville, Ill	10.00
Dr. L. A. Moore, Lexington, Ill	5.00
Dr. O. Moore	5.00
Dr. W. B. Wise, Sheffield, Ill	5.00
Dr. F. E. Jones, Rochelle, Ill	5.00
Dr. C. M. Merriman, Mt. Pulaski, Ill	5.00
Dr. O. W. Winters, Arthur, Ill	5.00
Dr. W. W. Neabitt, Lincoln, Ill	5.00
Dr. J. F. Gillespie, Tuscola, Ill	5.00
Dr. C. G. Everton, Monroe Center, Ill	2.00
Dr. O. Schattlery, Good Hope, Ill	1.00
Wr. W. M. McEvers, Chicago, Ill	5.00
Dr. C. A. White, Chicago, Ill	10.00
Dr. H. C. Curtis, Polo, Ill	2.00
Dr. J. E. Pyle, Tonion, Ill	5.00
Dr. R. W. Langstoff, Colfax, Ill	5.00
Dr. F. A. Shepherd, Fairmount, Ill	6.00
Dr. A. Johnson, Petonia, Ill	5.00
Dr. C. D. Grogan, Mendota, Ill	5.00
Dr. H. C. Barth, Amboy, Ill	5.00
Dr. C. S. Hayward, Mattoon, Ill	5.00
Dr. Gordon, Gibson City, Ill	5.00
Dr. D. S. Jaffray, Chicago, Ill	5.00
Aurora Serum Company, Aurora, Ill	25.00

Dr. Jas. Robertson, Chicago, Ill.	5.00
Dr. J. L. Montooth, Bradford, Ill.	5.00
Dr. W. A. Weldon, Dwight, Ill.	5.00
Dr. R. E. Nesbitt, Clinton, Ill.	5.00
Dr. E. L. Quitman, Chicago, Ill.	5.00
Dr. E. A. Manuel, Des Plaines, Ill.	5.00
Dr. D. L. Travis, Vandalia, Ill.	5.00
Dr. C. L. Passmore, Huntley, Ill.	3.00
Dr. John Beer, Blue Island, Ill.	12.50
Dr. T. C. Tridbohl, Chicago, Ill.	12.50
Dr. W. E. Warnock, Aledo, Ill.	10.00

Note.—The above list has been reproduced just as it was received, along with other material, from the Philadelphia meeting. Any corrections as to omissions, etc., will have to be made later, if necessary.—Ed.

REPORT OF COMMITTEE ON RESOLUTIONS.

Whereas, in this great war so much is necessary of each individual in order to render the earth safe for democracy, and

Whereas, it is necessary for everyone to do everything he can whether in civil or military life, and

Whereas, so many of our profession have already entered the Army and are rendering efficient service,

Be it resolved, that we reiterate our pledge of aiding the Government in every possible way to bring about a successful termination of this world conflict and pledge our best efforts for the protection and conservation of our food and laboring animals, and

Further be it resolved, that a copy of this resolution be sent to the Council of National Defense and to the Surgeon General.

Whereas, a conservation of live stock is being recognized as one of the most important measures to a victorious conclusion of the war and also for the reconstruction of agriculture in the devastated countries of our Allies, and

Whereas, the Bureau of Animal Industry, through its efficient and patriotic employees, is rendering inestimable services not only in providing the Army, Navy and the civil population with wholesome meat food, but also in creating proper provision for the future of our live stock industry,

Be it resolved, that the American Veterinary Medical Association, assembled in its annual convention, express its deep appreciation for the splendid accomplishments of the Bureau of Animal Industry, and

Be it further resolved, that a copy of this resolution be forwarded to the Secretary of Agriculture and the Chief of the Bureau of Animal Industry.

Whereas, all branches of our Government, the animal industry as well as our colleges and experiment stations, are in need of more well-trained veterinarians, and

Whereas, this Association is regarded as a medium of expression by the veterinary profession of the United States and Canada on veterinary educational matters, therefore

Be it resolved, that this Association approves the policy of the Surgeon General's office and the Bureau of Animal Industry in regard to preliminary education and collegiate work.

Whereas, the Saddle and Sirloin Club of Chicago has shown its appreciation of the importance of the veterinary profession to the animal industry, and

Whereas, this Club has seen fit to provide a gallery for paintings of our distinguished colleagues and leading members of this Association will be the first to be placed in this art gallery.

Be it resolved, that we hereby extend to the Saddle and Sirloin Club our appreciation of this honor to our profession, and

Further be it resolved, that a copy of this resolution be sent to the Secretary of the Club.

Whereas, we deem it for the best interest of the Association to keep all of its business matters in a form available for its members,

Be it resolved, that any member of any regular or special committee of this Association who accepts any money or other contributions to be used in carrying on the work of the committee, or who spends any money in addition to the funds appropriated by the Association for the use of the committee, shall make a report of such transaction, stating the names of contributors, the amount received from each, and submit for presentation at the annual meeting of the Association an itemized statement of all expenditures. Said report to be added to or incorporated in the report of the committee and included in the printed proceedings of the Association.

Whereas, the success of the meeting of the American Veterinary Medical Association depends to a large extent upon the efforts of the local committee, and

Whereas, the meeting of 1918 has been so successful and the well-laid plans so carefully carried out, and

Whereas, so many conveniences and highly pleasing events have been prepared for our entertainment,

Be it resolved, that we extend to the local committee our earnest appreciation of their efforts to make this meeting so highly successful and hereby extend our hearty thanks for their labors.

C. P. FITCH,
A. EICHHORN,
C. H. STANGE,
JOHN REICHEL, Chairman,
Committee.

REPORT OF COMMITTEE ON VETERINARY ANATOMICAL NOMENCLATURE.

Mr. President, Members of the A. V. M. A.:

Your committee has made but little progress during the year, due to a number of factors:

1. The lateness of organization of the committee.

2. The chairman could devote very little time to the work until the summer vacation.

3. The chairman of the committee has been unable to get the second list of terms covering the circulatory and nervous systems, the sense organs and the integument, from either the members of the committee or the officers of the Association. This list was submitted to the Secretary in November, 1914 (see Jl., A. V. M. A., N. S., Vol. 1, No. 5, page 636). The chairman has been unable to secure this second list from members of the committee since his appointment on the committee in 1915. A second list is now being prepared, but could not be finished for this meeting. A history of the labors of the committee is appended for the information of those directly interested and we wish to give notice that the final report will be submitted at the next annual meeting, if our recommendations are adopted.

We recommend:

1. That the committee be continued so that the work begun may be finished.

2. That the provision regarding the multigraphing of the report, which was adopted last year, remain in force.

3. That the history of the work of this committee be published with this report.

H. S. MURPHEY, Chairman.
S. SISSON.
I. E. NEWSOM.
S. L. STEWART.

History of the Attempt to Standardize Veterinary Anatomical Nomenclature by the American Veterinary Medical Association.

1. In 1911 at the Detroit meeting of the A. V. M. A., Dr. I. E. Newsom of Fort Collins, Colorado, read a paper on "Anatomical Nomenclature" (page 669, Proceedings of A. V. M. A., 1911), in which he drew attention to the chaotic condition existing by the use of, at least, four systems in this country. Resolution 7, page 684, of this Association provided that a committee of anatomists be appointed to formulate a nomenclature. This resolution was referred to the Executive Committee of the A. V. M. A. (pages 54 and 96). This was recommended to the Association by the Executive Committee and was adopted by the Association. During the next year this committee was appointed by Dr. Brenton, President of the A. V. M. A., as follows:

S. Sisson, Chairman; I. E. Newsom, S. L. Stewart.

The Association of Faculties and Examining Board appointed the same committee.

2. The report was first presented in 1912 (Proceedings A. V. M. A., pages 636 and 187). After considerable discussion by various members of the Association of Faculties and Examining Boards the committee's report, covering the general principles governing revision (page 187), was adopted and recommended to the A. V. M. A. for its adoption (page 52). The report was received and committee continued. Indianapolis meeting of A. V. M. A.

3. The committee made their second report to the A. V. M. A. at the New York meeting. This report was received, the terms submitted were published in the proceedings and a definite appropriation of $300 allowed the committee to continue its work. (A. V. M. A., Proceedings, 1913, pages 191-226.)

4. The next meeting was planned for New Orleans in December, 1914, but was given up on account of the serious outbreak of foot and mouth disease in this country. However, the remaining lists were submitted to the Association in November, 1914. (Proceedings, A. V. M. A., N. S., Vol. 1, page 636, No. 5.)

5. The next meeting was not held then until the Oakland meeting in 1915. Letter of transmittal and second list of terms noted in proceedings Jl. A. V. M. A., N. S., Vol. 1, No. 5, page 636.

6. Personnel of committee, 1915-1916: S. Sisson, chairman; H. S. Murphey, I. E. Newsom. Jl. A. V. M. A., N. S., Vol. 1, No. 5, page 516. This committee submitted a report dated June 1, 1916, which was lost, Dr. Newsom giving the report verbally. Jl. A. V. M. A., N. S., Vol. 3, No. 4, page 457 (see Jl. A. V. M. A., N. S., Vol. 5, No. 2, page 229.)

7. Personnel of committee, 1916-1917: S. Sisson, chairman; H. S. Murphey, I. E. Newsom, S. L. Stewart, E. S. Brashier. Jl. A. V. M. A., N. S., Vol. 3, No. 7, page 936. The report is given in Jl. A. V. M. A., N. S., Vol. 5, No. 2, page 229. Referred to Executive Board, Jl. A. V. M. A., N. S., Vol. 5, No. 5, page 503. "The Executive Board recommends that the Secretary be instructed to multigraph the report of the Committee on Anatomical Nomenclature for distribution among anatomists of the veterinary colleges.

Motion to approve and adopt; said recommendation duly made, seconded and carried." Jl. A. V. M. A., N. S., Vol. 5, No. 5, page 539.

8. Personnel of committee, 1917-1918: H. S. Murphey, chairman; S. Sisson, I. E. Newsom, S. L. Stewart.

REPORT OF COMMITTEE ON LEGISLATION.

During the past year your committee have been in constant touch with the situation at Washington as to the possibilities of the Lobeck bill.

Not ever assured of its passage—but looking to possible amendments on the floor that would make it acceptable to Congress—the Department of Agriculture and so far as possible the betterment of the condition of those in the Bureau of Animal Industry whom it was destined to succor.

The amendment to the judicial appropriation bill of a flat increase of one hundred and twenty dollars to all those who received less than twenty-five hundred dollars salary a year kept all bills intended to promote better compensation for groups of federal employees in abeyance. A favorable report from any committees to which such bills were assigned was always contingent upon the action of Congress on the above amendment. There was one notable exception to this—that of the postal employees' bill, which after many years of effort finally succeeded.

During the past year the entrance salary of all veterinarians entering the Bureau service was raised from $1400 to $1500.

The increase of one hundred and twenty dollars will not be applicable to those entering the service since June 30, 1917. I am informed that this may be provided for by increased appropriations to the Bureau for the year.

The Lobeck bill is still in the hands of the Committee on Agriculture, with little likelihood of its favorable recommendation and less possibility of its becoming a law in the present attitude of those most directly connected with this legislation as law-makers.

Realizing that its failure would have a very serious affect on the organization of the B. A. I. employees, I have for more than two years pointed out to those veterinarians in this organization that as veterinarians they could work more effectively through the A. V. M. A. and knowing for almost a like period the constant efforts of the American Federation of Labor to have the Bureau employees' organization become a division of that body, your committee have made untiring efforts to keep the veterinarians from this movement. The Secretary and legislative representative of the Bureau organization, Dr. Walkley, who is also a member of the Legislative Committee of the A. V. M. A., has worked unceasingly with me as chairman of the committee, and our efforts are best expressed in the fact that upwards of five hundred veterinarians of the B. A. I. join the A. V. M. A. at this meeting.

Incident to this movement, they have organized many state and district organizations and will at this convention form themselves into a national organization and from year to year meet in connection with the A. V. M. A.

May I suggest to this Association that they be considered as a section of the A. V. M. A., the same as the Association of Faculties and Examining Boards, inasmuch as membership in the national organization will demand and require their members to be members of the A. V. M. A.?

Their deliberations and recommendations may be brought in concrete form to this Association, considered by your Executive Board and their recommendations submitted for action to the A. V. M. A.

Their legislation to become a part of the legislation advocated by this Association and the power and service of our more than three thousand members become an active force in their behalf.

During the past year on two occasions efforts were made to transfer the Veterinary Corps back to the Quartermaster's Department, probably to make the situation fit in with the present status of the army veterinarians now in France. At the first effort to change our position from the Surgeon General's Department to the Quartermaster's Department was an eleventh-hour amendment which on a point of order of Senator Kenyon was ruled out of order and lost.

In the second instance it was contained in the army appropriation bill, appearing there as an amendment, but we were assured by Chairman Dent of the House Military Committee that this was a clerical error in the reprinting of the bill and was not intended to be there. Its elimination in the final bill as it passed Congress leaves our status as established.

House Bill No. 9353, known as the Cary bill, to give us the relative rank of the Medical Corps, has not been acted upon by the House Military Committee.

House Bill No. 8937, introduced by Congressman Dyer, amending the Act of June 3, 1916, known as the National Defense Bill, intending to establish the ratio of officers on a percentage basis of the total number of officers, including the Veterinary Corps, still remains in the hands of the House Military Committee.

The amendment to the agricultural appropriation bill of one hundred thousand dollars to reëstablish equine meat inspection, which was discontinued in 1904, was strongly urged by your committee, many local and state organizations joining us in appealing for its passage.

This was defeated by Mr. Hoover—objection on psychological grounds—fearing the inference of our enemies that we were driven to horse meat consumption for our sustenance. Since its defeat we have added another meatless day, which must reflect a like influence.

The desirability of restoring equine meat inspection is still a pressing necessity, for the continued uncertainty of a steady supply and the limited choice that results from the single source of a city's old or broken-down horses, operates equally to limit this food having a large and fixed place in the home markets and denies us the opportunity needed of adding to the greater shortage of animal food in the allied countries.

W. Horace Hoskins, Chairman.

OTHER ASSOCIATIONS.

VERMONT VETERINARY MEDICAL ASSOCIATION.

The semi-annual meeting of the Vermont Veterinary Medical Association was held at Hotel Barre, Barre, July 17 and 18, 1918.

Meeting opened at 1:30 for a short business session.

New Members—Dr. William Campbell, Dr. W. A. Hamilton, and Dr. K. W. Kennedy were elected to membership.

Due to the kindly effort of Mr. E. S. Brigham, Commissioner of Agriculture and Live Stock of Vermont, it was made possible for us to have the following distinguished guests, who are not only prominent in their respective States in the conservation of live stock interests, but are widely known throughout the United States: Dr. V. A. Moore, Professor of Pathology, Bacteriology and Meat Inspection at New York State Veterinary College (Cornell University); Dr. Lester H. Howard, Chief of Cattle Bureau of Massachusetts; Mr. J. M. Whittlesey, Commissioner on Domestic Animals for the State of Connecticut; Dr. Andrew Felker, Live Stock Commissioner for the State of New Hampshire; Dr. A. J. De Fosset, of the Federal Bureau of Animal Industry, now located in Vermont, and engaged in supervising of testing and promoting interest in the accredited herd system in registered herds of cattle in this State.

Dr. Moore gave a very interesting address on the prevention and control of contagious diseases common to live stock; and I am sure that every one of our guests and members were inspired with many helpful thoughts in modern veterinary medicine, and I am hopeful that the many interesting features of the address will, in time to come, be thoroughly ruminated, and will aid us in times when we are puzzled to make a diagnosis.

Dr. Howard followed Dr. Moore in giving a very interesting address on the control of animal diseases in Massachusetts, which was highly educational and of vital interest to every veterinarian.

The morning of July 18 a clinic was held at the hospital of Dr. O. E. Barr, and several of the major operations were performed; also a demonstration of the opthalmic tuberculin test was observed.

The meeting adjourned at 3:30 p. m.

The next meeting will be held in Burlington, January 22 and 23, 1919.

GEO. STEPHENS,
Secretary-Treasurer.

NATIONAL ASSOCIATION OF BUREAU OF ANIMAL INDUSTRY VETERINARIANS.

The first National Convention of this Association, held at the Bellevue Stratford Hotel, Philadelphia, Pa., August 19-21, 1918, in conjunction with the fifty-fifth annual session of the A. V. M. A., was democratic, harmonious and successful throughout, and all branches of the bureau service in which veterinarians are engaged were represented.

Dr. John R. Mohler, Chief of the Bureau, honored us with his presence at some of our sessions, and assured us of his personal interest in our Association, expressing the hope that our efforts to secure recognition from Congress would be successful.

Several of our officers and delegates interviewed Dr. U. G. Houck, Acting Assistant Chief of Bureau, at convention headquarters on August 18 and 19, and he stated that he regarded the work of our Association as of the greatest importance, especially during this crisis when the Bureau forces are being depleted by the demands of war.

The officers and delegates in attendance at the convention went away convinced that the Bureau officials are doing their utmost to provide adequate compensation for the B. A. I. veterinarians, and it is to Congress that we must appeal for definite salary schedules.

We were very much gratified with the words of encouragement from officers and members of the A. V. M. A. and officers of the various State Veterinary Medical Societies and Live Stock Sanitary Boards. They congratulated us upon having a national organization of B. A. I. veterinarians, and offered to assist us in every possible way in our efforts.

The A. V. M. A. appropriated $1,000.00 to be used by their Committee on Legislation in promoting our Classification Bill in Congress (Dr. W. Horace Hoskins, of New York City, is chairman of that committee), and they have pledged us their moral support in this work. Additional funds will be needed in order that the work of the Committee on Legislation and Publicity of the N. A. of B. of A. I. V. may not be hampered, and we earnestly hope to provide further funds by enrolling each of the 1,600 Bureau veterinarians as active members of the N. A. of B. of A. I. V.

The per capita tax for members of this Association, whether they enroll as members of State, divisional or district associa-

tions or as members-at-large, is $3.00 per annum, or $1.50 per term of six months.

Our National Executive Committee respectfully urges upon all subordinate bodies of this Association the importance of maintaining reciprocal relations with the various Veterinary Medical Societies and Live Stock Sanitary Boards in their respective districts, assuring those societies that the interests of this Association are not self-centered and that we stand ready and willing at all times to co-operate with them in all matters looking to the advancement of the veterinary profession. Many B. A. I. veterinarians are already active members of State Veterinary Medical Societies, and some are officers in those societies. Such affiliations will naturally facilitate the work of this Association in enlightening the members of the State Veterinary Societies regarding the Bureau work, and the need of remedial legislation in the interest of Bureau veterinarians.

S. J. WALKLEY, Secretary.

To the Officers and Members:

On behalf of the national officers elected at the Philadelphia convention I desire to express to each of you their appreciation of your vote of confidence in them, and to pledge you their efforts to accomplish the fulfillment of our aims.

The burden of responsibility for the success of our cause rests heavily upon the Legislative and Publicity Committee. It is expected that each member of the National Association will put forth his best effort in assisting this committee. There are three objectives before us for immediate attention, either of which might easily be considered first:

(a) The enrollment of new members and organization of local, State or divisional associations affiliating with the National Association, until we secure as near 100% membership as is possible. We should endeavor to enroll another 750 members by January 1. This can easily be accomplished if every one does his part. In cases where associations cannot be formed, individual B. A. I. veterinarians may enroll as members-at-large through the office of our National Secretary, Dr. S. J. Walkley, 185 Northwestern Ave., Milwaukee, Wisconsin.

(b) Each association should present some helpful suggestion to the Publicity Committee for their consideration, that a definite program may be announced by them in the very near future. I am sure this committee will appreciate assistance of this kind.

(c) Some plan should be worked out that will establish the status of Bureau veterinarians in relation to military service, that our stand in public opinion after the war may be established.

We hope to be able to announce within another thirty days much progress toward the first proposition from Pittsburgh, Ohio and the West coast.

The personnel of the Committee on Legislation and Publicity of our Association for the ensuing year, as appointed at the Philadelphia convention, is as follows:

Dr. J. A. Kiernan, Chairman, Washington, D. C. (Tuberculosis Eradication).

Dr. Jas. Fleming, Kansas City, Kansas (Meat Inspection).

Dr. John D. De Ronde, New York City (Meat Inspection).

Dr. F. R. Jones, Fort Worth, Texas (Hog Cholera Control).

Dr. W. K. Lewis, Columbia, S. C. (Tick Eradication).

J. S. KOEN, President.

CONFERENCE OF INSPECTORS IN CHARGE OF TICK ERADICATION.

One of the most interesting and instructive meetings for the inspectors in charge of tick eradication was held at the Molton Hotel, Birmingham, Alabama, Monday and Tuesday, September 23 and 24, 1918.

Dr. R. A. Ramsay, Chief of Tick Eradication Division, Washington, D. C., presided and outlined a list of important subjects for discussion by the conference which resulted in a number of resolutions intended to be far-reaching and constructive in their effect.

Dr. Ramsay stated this had been the most successful year ever undertaken under the project and this fall the government would release more territory than ever before. The reports from Louisiana surpassed all previous figures, with an average of over two million dippings a month, with Oklahoma following, showing one million dippings each month.

Mr. Fred Jones, President of the Southern Cattlemen's Association, and Hon. Robert Seals, recently elected member of the State Legislature, both from Alabama, were present throughout the conference, full of enthusiasm and ready to do anything to hasten the work—one of the greatest conservation measures ever undertaken.

The following state authorities were present and participated in the conference: Dr. C. A. Cary, Alabama; Dr. Hudson Chadwick, Mississippi; Dr. E. P. Flower, Louisiana; Dr. R. M. Gow, Arkansas; Dr. Moore, North Carolina, and R. W. Storrs, Florida.

The Bureau veterinarians attending were: Drs. L. J. Alle Oklahoma; J. A. Barger, Mississippi; C. J. Becker, Alabama; E. L. Bertram, Illinois; Harry Grafke, Texas; Marvin Gregory, Arkansas; R. E. Jackson, Alabama; W. K. Lewis, South Carolina; W. M. MacKellar, Georgia; E. M. Nighbert, Florida; J. B. Reidy, Texas; H. Robbins, Georgia; E. I. Smith, Louisiana; E. P. Yager, North Carolina, and Mr. E. E. Gass, chief clerk in the Jackson, Mississippi, office, who kept notes of the official proceedings and attended to all the clerical work.

Dr. E. L. Bertram, inspector in charge, National Stock Yards, Illinois, was a conspicuous figure on account of his pleasing personality. Dr. Bertram very ably explained methods of inspecting cattle from the South which arrived at the stock yards and indicated the measure to be absolutely coöperative, inasmuch as it would furnish the Bureau definite data in case ticks were found on such shipments.

It was brought out in the conference that Alabama, Florida and Georgia were drafting a state-wide law which, from all appearances, would be unanimously passed by their respective legislative bodies this fall and winter.

As Texas has a zone law, about sixty counties would commence systematic dipping in 1919. South Carolina would, very likely, be released from quarantine this fall. Mississippi had maintained its usual high standard of efficiency during the danger period of the second year, in spite of the fact that she had spared a large number of veterinary inspectors to go to other needy states. Southeast Texas came forward with splendid results after two years of diligent preliminary work in the countries where the first tick invaded the United States. Arkansas and North Carolina were ably represented and the conference was impressed with the fact that they might be the next to triumphantly join the white area.

The meeting closed with a unanimous vote that a special communication be forwarded to Dr. J. R. Mohler and Dr. R. A. Ramsay, Washington, D. C., expressing appreciation for the privilege of coming together to discuss the practical side of tick eradication.

E. I. S.

RESOLUTION ADOPTED BY KANSAS CITY, KANSAS, UNIT, B. A. I. VETERINARIANS.

Whereas, the United States is now victoriously waging war against the Imperial German and Austrian Governments for the freedom and liberty of humanity, and for the purpose of insuring the safety of democratic forms of government, and

Whereas, it is well recognized that the continued success of this war depends equally upon the civilian army and the military army, and

Whereas, the veterinarians of the Bureau of Animal Industry, U. S. Department of Agriculture, though they have not been privileged to enter the military service, through their efforts in the eradication and control of animal diseases, the inspection of meats and other allied activities, are safeguarding the live stock industry and the health of our soldiers, and are thus performing a very necessary war work; be it

Resolved, that the veterinarians of the Bureau of Animal Industry respectfully requests the War Department to give recognition, in the form of a certificate and insignia, to those engaged in this essential war work, that they may give evidence of their contribution to the winning of the war; be it further

Resolved, that a copy of this resolution be furnished the president of the National Association of Bureau of Animal Industry Veterinarians, with a request that he bring it to the attention of the several units of this association, and to the Secretary of War, for consideration.

F. A. Imler,
J. Fleming,
A. L. Bailey,
Committee.

TICK ERADICATION TALKS AT NEW ORLEANS.

A conference of the Bureau of Animal Industry employees of Louisiana engaged in the work of eradication of cattle fever ticks was held at New Orleans in the Federal building on September 21.

Veterinary inspectors and agents represented the sixty-four parishes of the state at the conference, which was called for the specific purpose of furthering the work to a definite conclusion by detailing plans for mutual coöperation.

Dr. E. I. Smith, inspector in charge, presided and clearly defined in his opening remarks the slogan for Louisiana to be: "We are going to dip until we get the last tick."

An address by the Hon. John M. Parker, U. S. Food Administrator for Louisiana, on conservation of foodstuffs and advices for coöperation relative to producing more food. He said there would be a shortage of stock food. Only 60% of normal has been put up, less bran, less chops, and other cow feeds would shorten our milk and butter output this winter; he advised putting up all winter feed possible. Tick eradication was a helping hand, as it was a source of increase of more meat and milk.

Mr. Parker brought out the information that 90% of the calves in the South were dropped in the spring. This should be remedied to prevent a shortage of milk and butter in the months we have no grasses. More of our cows should come fresh in the fall and winter months that there may be milk the year round for the children. He also forcibly impressed the conference that the Food Administration was ready and willing to back up the work of tick eradication in any way it can be of service. America, he said, was fighting for American principles. A class of foreigners came here to take advantage of conditions and not for love of America.

Dr. H. L. Darby, formerly connected with the Texas force of the Bureau in the eradication of the tick, responded to the work of the Food Administration and to Mr. Parker. He also said he would go back to Texas and spread the glad news of Louisiana's success in its eradication work.

Extemporaneous remarks by Dr. G. H. Bruns delved into some ancient history of tick eradication and the doctor's years of experience in the work has provided him with a brand that spells Big Success.

"Those who at this time of national crisis and demand for food evade the provisions of the dipping laws are slackers and should be exposed," was the opening gun fired by Dr. E. P. Flower, secretary and executive officer of the Louisiana State Live Stock Sanitary Board. Dr. Flower's figures showed Louisiana to have 1,125,000 head of cattle, reduced to round numbers of 1,000,000, at a minimum increase of $7 per head in value as the result of dipping, means a profit of $7,000,000 to cattle owners of Louisiana. Added to these figures is a 25% increase in 60,000 female cattle. One hundred and fifty thousand additional calves at an average of $10 per head represents to them an additional

$1,000,000, plus 25% increase in the milk supply of 300,000 dairy cattle, representing an increased production of 75,000 gallons of milk at 40 cents per gallon, again adds to their account $300,000.

"Therefore, we have a grand total increase of profits of $8,530,000.

"Charges against this for the expense of conducting the anti-tick crusade is $995,000, leaving to the people a net profit of $7,535,000. Is the fight worth while?

"The approximate cost per head of dipping cattle is 90 cents. I am confident that about 75% of the parishes will be released by the first of December.

"In the last fourteen months there have been shipped into the state 2,000 full-bred beef cattle, 60% of which were bulls, and already the progeny produced have fully justified the wisdom of such a venture on the part of live stock owners.

"Tick eradication made it safe to introduce blooded stock, otherwise it would have been impracticable and have resulted in a loss to the owners. For every dollar spent in this work by the state, the United States government spends two, and I consider tick eradication one of the most constructive and conservative measures of the day."

Dr. W. H. Dalrymple, professor of veterinary science, Louisiana State University, and veterinarian of the State Experiment Station, who was to have addressed the conference, was unavoidably detained at Baton Rouge and could not be present, which proved a keen disappointment to all.

Mississippi was represented by Dr. J. A. Barger of Jackson, who advised the conference how to manage ticky herds after October 1.

Natchitoches Parish, one of the largest in the state, was ably cared for by Dr. G. E. Ellis in a verbal description of the tactics used in holding and obtaining coöperation until the last tick has vanished into innocuous desuetude by the process of dipping.

Dr. J. B. Reidy, inspector in charge of tick eradication, Houston, Texas, recounted the road to success was through the efficiency of the supervising inspector of a county. He should be proficient and master of every situation; know how, why and when the benefits are to be derived, able to give reasons for what you do, for it is education that spells success in tick eradication.

Dr. E. I. Smith, inspector in charge of Louisiana, closed the conference with impressive heart-to-heart remarks, showing clearly his appreciation of the splendid coöperation received at all

times from the Live Stock Sanitary Board, the city and county press, nearly all cattle owners, and his own force, well and ably contributing to the constructive progress of the cattle industry in Louisiana by tick eradication.

Everybody looks forward to these conferences with an eager spirit, for nothing puts a tick eradicator more on his metal. The discussions engaged in by all bring out the underlying principles that obtain more ready results, uncovering all dormant matter. A tick eradicator alive to the situation will go back home better fortified for his having come. E. HORSTMAN.

TRI-COUNTY VETERINARY ASSOCIATION.

The Tri-County (Ohio) Veterinary Association was formed at Greenfield, Ohio, on October 2, by the veterinarians of the counties of Highland, Ross, and Pike, when the following officers were elected:

Chairman—Dr. M. J. Jones, Lynchburg, Ohio.
Vice Chairman—Dr. O. A. Tudor, Greenfield, Ohio.
Secretary-Treasurer—Dr. W. R. Lukens, Hillsboro, Ohio.

STATE VETERINARY MEDICAL ASSOCIATION OF TEXAS.

The meeting of the State Veterinary Medical Association of Texas was held at College Station, Texas, on July 29 and 30, 1918, and from point of attendance, good fellowship, and general excellence of papers presented and work done, must be classed with the very successful meetings of the year.

The regular meeting place of the association is at Fort Worth, but due to the fact that the formal opening of the State School of Veterinary Medicine of Texas was to take place July 30, it was thought best to hold the veterinary meeting at this time and place to allow the members to become better acquainted with the school facilities and the men having veterinary education in charge in Texas. It was voted at this meeting to allow any B. A. I. employee who was a regular member in good standing in any state veterinary medical association to become a member of this association, should he be moved to Texas, by producing satisfactory evidence of such membership, and signifying his desire of becoming a member; this without any other fees than

the regular payment of dues, and his standing in this association to be the same as in that from which he came.

Twelve new members were taken into the association, which now has a membership of 139, owes nothing, has a comfortable balance in the treasury, and is upon a sound basis.

The literary part of the program was excellent, and the following papers were presented and well discussed:

"Hemorrhagic Septicemia, Its Clinical Diagnosis," Dr. H. Jensen, Kansas City, Mo.

"Hemorrhagic Septicemia, Laboratory Diagnosis," Dr. H. Schmidt, College Station, Texas.

"Hog Cholera Control," Dr. F. R. Jones, B. A. I., Fort Worth, Texas.

"Diagnosis Contagious Abortion in Cattle," Dr. A. T. Kinsley, Kansas City, Mo.

"Treatment Contagious Abortion in Cattle," Dr. R. P. Marsteller, College Station, Texas.

"Tuberculosis Among the Beef Breeds of Texas and Methods of Control," Dr. E. F. Jarrel, Fort Worth, Texas.

"Anthrax and Its Control," Dr. W. H. Dalrymple, Baton Rouge, La.

An all-day clinic was held at the college hospital July 30 and the clinic was so large and varied that it could not be completed in one day, so several men stayed over the following day to help with the operations. Dr. W. G. Gregory was in charge, and conducted it in an able manner.

The evening of July 30 was set apart for the formal opening of the State School of Veterinary Medicine, of Texas, and the exercises were enjoyed by everyone present. Dr. R. P. Marsteller presided, and addresses were made by the following: Drs. Mark Francis, A. E. Flowers, E. F. Jarrel, W. H. Dalrymple, Frank R. Jones, W. G. Gregory, and much merited praise was bestowed upon Dr. Francis and his coworkers for their untiring efforts in bringing this magnificent school into existence. The school is well equipped and is housed in one of the most beautiful buildings on the college campus.

The meeting adjourned, thanking the College Station folks for their hospitality and kindnesses, and pledging entire loyalty to the new school, its aims and its aspirations.

ERNEST M. WIGGS, Secretary-Treasurer.

MEETING OF AMERICAN HUMANE SOCIETY.

At the annual meeting of the American Humane Society, held in Chicago recently, one afternoon was devoted to the work of the American Red Star. Mr. G. E. Wentworth, Superintendent of the Chicago Stock Yards Company, gave an interesting address on the transportation of army horses and advocated the appointment of an official veterinarian who should have authority to modify the twenty-eight or thirty-six hour unloading in transit regulatories where the comfort and safety of the horses would be enhanced. In certain cases horses are now unloaded in severe storms into stock pens without shelter in order to comply with the letter of the law. Mr. Wentworth also paid a tribute to the government veterinarians in their successful efforts to cope with shipping fever.

Mr. Wayne Dinsmore, Secretary of the Percheron Society of America, also spoke on the probable shortage of horses in this country in the near future. He states that one million horses and one-third of a million mules had been shipped to the allied armies, and three hundred and fifty thousand horses and mules had been supplied to the American army. Foreign military officers praised the quality of American horses and mules highly. When it was necessary to get guns, ammunition and supplies to the front lines under shell and machine gun fire and over almost impassable ground, the American horses and mules were "there with the goods."

Mr. Dinsmore also advocated state aid to approved stallions along lines so successfully carried out in France and England.

Dr. W. Horace Hoskins also spoke on the American Army Veterinary Service and paid a fitting tribute to Major Harry D. Gill, whose recent death in the service was a shock to his many friends.

Dr. Hoskins also told of the efficient work of the army veterinarians in alleviating the suffering and protecting the health of the army horses and mules.

Such meetings as this with the support of veterinarians will be of great value in helping to place the efforts of those interested in humane treatment of animals on a practical and helpful basis.

N. S. M.

NECROLOGICAL.

MAXIMILIAN HERZOG.

The members of the Veterinary Inspectors Association of Chicago were greatly grieved to learn of the death of Dr. Maximilian Herzog. In the past the Association has frequently been honored by his presence at their meetings as well as at their annual banquet, where he never failed to please and say something that was instructive and helpful in our work. In recognition of the deep interest that Dr. Herzog has taken in the veterinary profession, this Association saw fit to make him an honorary member several years ago.

Some of the older members of the Association have borne an intimate acquaintanceship with him for a number of years, while others had the honor of receiving instructions from him. All the members of our Association feel that not only have they lost a valuable contributor to the veterinary profession, but also a sincere friend, who always labored for the advancement of veterinary science as well as the profession to which he belonged. And,

Whereas, "The Great Avenger, Death," has struck down our friend during a period in his life in which he was of most value to science; therefore,

Be it resolved, That this Association has lost a personal friend and a valuable contributor to science, and one by whose encouraging words and pleasing personality we were stimulated to higher thoughts and nobler aims; and,

Be it further resolved, That we extend to Mrs. Herzog our sincere sympathy in this hour of her bereavement; also that a copy of these resolutions be spread upon our records and a copy sent to Mrs. Herzog. (Signed) THE COMMITTEE.

D. R. GILLIES,
B. RAFFENSPERGER,
F. H. BENJAMIN.

The Journal deeply regrets to have to announce the sad death of Major Harry D. Gill, fuller notice of which will be given in our next issue, as the details have not been received as we go to press.

MISCELLANEOUS.

THE EXCISE TAX ON MEDICINES.

(Editorial Note: This article is reprinted because of its importance to veterinarians. Immediate action should be taken.)

A matter of the utmost importance to physicians is the proposed increase of the federal excise tax on so-called "proprietary medicines" from 2 per cent (the present tax) to 10 per cent. According to the newspapers, this increase has been agreed upon by the Ways and Means Committee. If it were to be placed only upon what the physician understands as "proprietary" medicines, and what the layman calls "patent" medicines, none of us would object, since, when the law was originally passed, it was undoubtedly the intention of our lawmakers to restrict the burden to preparations of this kind. Unfortunately, the law was so loosely drawn that it is capable of almost any interpretation, and, as the Government needed the money to carry on the war, application has been made as sweeping as possible.

As the law is being administered at the present time, a very large majority of the medicinal preparations used by the medical profession come within its scope, the only clearly defined exceptions being remedies that are included in the U. S. Pharmacopeia and National Formulary. All preparations that are made under United States patents, that are protected by trade-mark, that are recommended as cures or remedies for diseases or disease conditions, that have disease-name designations, or to which is definitely attached the name of the deviser or the producer, are subject to taxation. The same product may be free from taxation when made by one house, and subject to taxation when made by another house, if the one has trade-marked the name of the product and the other has not. Many inequalities of this kind might be mentioned.

If the tax is increased to 10 per cent without modification of the law, we believe that probably 75 per cent of the medicines used by doctors will be affected. Since in the last analysis the sick man pays the tax, the burden will fall upon him. Nearly all definite synthetic remedies introduced within recent years will be taxed, including such substances, now made in America, as adrenalin, novocaine (procaine), salvarsan (arsphenamine), vero-

nal (barbital), and dozens of others. Many other chemicals that are sold under trade-marked names, like atophan, chlorazene, and the like, will be taxed heavily. The Compound Cathartic Pill will be free from taxation because it is official, but the non-official anticonstipation pills of all kinds will be subject to taxation. Dover's Powder will be free from taxation because it is official, but Hinkle's Cascara Pill will be subject to taxation because the word "Hinkle" has become part of its name. To give any information on the label concerning the employment of any product, even though information of this kind is vitally necessary for correct application of the drug, will make it subject to taxation.

Physicians who object to paying more for their medicines, and who believe that no additional burden should be placed upon themselves and their patients, should express their feeling in this matter to their congressmen and senators. Medicine is a necessity for the sick. While it may be wise that it should bear part of the war burden, this burden should be light. Let the heavy taxation be restricted to luxuries and non-essentials, such as the so-called "patents," the cosmetics, and things of this kind.

If you are interested, as of course you are, speak now, or be prepared to take *your* medicine, expressed in increased cost of the necessities of your practice.—*Exchange.*

WOUNDED ANIMALS NOW GET HOSPITAL TREATMENT FROM RED STAR.

Did you ever stop to think what a debt you owe the faithful, uncomplaining horse for his valiant services in helping stem the advance of the German hordes? Even in this day of motor transport the successes of the Yanks at Chateau Thierry and St. Mihiel would have been almost impossible without the aid of horses and mules to carry food and ammunition to the men in the front lines and to bring up the big guns.

"Horses are as much needed to carry on the operations of war as they were a thousand years ago," said Dr. William O. Stillman, president of the American Humane Association, in session at the Congress Hotel. "In difficult terrain the soldiers would starve if animals were not used to bring up food. Attacks would fail and defenses crumble if it were not for ammunition and guns brought up by horses and mules."

To care for these invaluable allies the Humane Association has organized a department known as the Red Star Animal Relief, which is now coöperating with the Army Veterinary Corps. When the war horse is wounded or falls sick, instead of being knocked in the head with an ax, as in the days of old, he is hoisted into a cushioned motor ambulance—if his wounds are not mortal—carried gently to an immaculate field hospital, operated on under an anæsthetic and later turned loose for a holiday of convalescence in a paddock.—*Chicago American.*

CONFERENCE OF MISSISSIPPI BUREAU OF ANIMAL INDUSTRY EMPLOYEES.

The employees of the Bureau of Animal Industry engaged in the work of tick eradication in Mississippi held a very beneficial conference in the Board of Trade, Jackson, Miss., Saturday, October 5, 1918.

Dr. J. A. Barger, Inspector in Charge, prepared a very searching program for the purpose of touching on all the practical subjects of the project, and presided over the conference in his usual firm and gentle manner, so that addresses and discussions followed on regular schedule time.

The morning session was devoted to addresses from various individuals within and without the state. Hon. S. J. Taylor, Holstein breeder and dairyman from Jackson, Miss., was the first on the program and proved more than entertaining to the audience, inasmuch as he possesses unusual tact as a speaker and a man who can quickly apply practical ideas. Mr. Taylor drew a vivid comparison between the food values of milk and other animal products, lauded the work of tick eradication in the state, paid a high tribute to the personal character and ability of the inspector in charge, and closed his remarks by inviting everyone to join him at the noon hour at his milk depot on State Street to drink good old-fashioned buttermilk and pure sweet milk produced from his splendid Holstein herd.

Other speakers who followed attracted unusual attention. Dr. E. P. Flower, from Louisiana, was unable to be present on account of sickness, and the conference regretted very much his absence—the Doctor is very popular among all Bureau men.

Dr. J. J. Jones, of Mississippi, held the undivided attention of the audience with his remarkable address, "One Man." Dr. Jones concisely showed what one man had accomplished under

adverse circumstances, and made the principle applicable to tick eradication.

The afternoon session was devoted to general discussions of prepared subjects by speakers called from the floor. The topics were broad and comprehensive and very ably discussed by all who volunteered or were called upon. The conference closed at 4 p. m., after adopting several excellent resolutions, notably thanking Mr. Taylor for his courtesy in inviting all of the members to lunch; thanking several outsiders for their remarks; and, finally, a very appreciative one to the Chief of the Bureau of Animal Industry and the Chief of the Tick Eradication Division for permission to hold such a conference.

Dr. Barger is, indeed, very popular among the tick eradication forces and never fails to attract less than extraordinary attention, and he is to be highly congratulated on the manner in which he has handled difficult matters connected with his duties in Mississippi during the three years he has been chosen by the Bureau to direct the work of tick eradication. E. I. S.

ASSISTANT CHIEF, BUREAU OF ANIMAL INDUSTRY, APPOINTED.

The Secretary of Agriculture on September 26, 1918, announced the appointment of Mr. B. H. Rawl as Assistant Chief of the Bureau of Animal Industry. The appointment became effective on October 1. Mr. Rawl has been Chief of the Dairy Division of the Bureau of Animal Industry since 1909, and, in addition to his new duties, he will continue to supervise the work of that division, the scope of which during the past nine years has increased six-fold and now reaches two-thirds of the States.

Mr. Rawl was graduated from the Clemson Agricultural College, South Carolina, in 1900. He later took a special course in dairy husbandry at the Pennsylvania State College and the University of Wisconsin, and served as Assistant Professor of Animal Husbandry and Dairying at Clemson College from 1902 to 1905. He entered the service of the Bureau of Animal Industry as dairy husbandman in 1905, and, as indicated, was made chief of the division in 1909. He is a trustee of the Clemson Agricultural College and a member of the American Association for the Advancement of Science, of the South Carolina Agricultural Society and of the South Carolina Live Stock Association.